The Builder.

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THE social reforms needed for the preservation of the public health, and the advancement of the general welfare, appear to have taken a considerable hold upon the public mind. Various societies are working sedulously to advance them; deputations go to prime ministers; and reports of committees fly about in all directions.

We have the Health of Towns Association; the Health of London Association; the Metropolitan Working Classes Association for Improving the Public Health; the Society for the Abolition of Burials in Towns,* and others; and if some important result be not speedily effected, our faith in the strength of public opinion will be lessened considerably.

The report of the Health of Towns Association on Lord Lincoln's drainage bill, while reviewing this bill and pointing out forcibly its inadequacy in many respects, gives a general and most important view of all the matters affecting the sanatory condition of the metropolis; and, if extensively circulated, must effect much good. The intensity and mortality of disease have increased, and are increasing, through neglect of efficient drainage, well arranged streets and houses, proper cleansing, a due supply of water, want of ventilation and other sanatory arrangements, all obtainable for the whole population. It is proclaimed in language not to be misunderstood, that *every day's delay in the adoption of these measures costs the lives of* 136 *persons in England alone!*†

The report dwells with great severity on the mischief which has been done by the Westminster Court of Sewers, and on the enormous sums of money which have been spent by the commission uselessly. The reduction recently made by this commission in the cost of sewers, will prove of great advantage to the public. Their duty unquestionably is to afford every facility for drainage, to induce by all means in their power the construction of sewers; and we have a strong conviction that great changes are even yet necessary in the constitution of the commission, and its motives of action. We hope before long to test the value of our opinion by an examination of the powers under which the court acts.

* The address of this society, just now issued, says:—"The sanatory condition of the people, so long neglected, has at length excited some degree of attention. Yet one of the most important subjects connected with the health of the inhabitants of large towns, has been unaccountably overlooked. No one presumes to deny the poisonous effects of decaying *animal* substances; more powerful, more dangerous, more deadly, than *vegetable* exhalations, they manifest their agency in the production of sudden death—in the development of disease which too often baffles medical skill—and in the slow but certain destruction of those who are more constantly exposed to their influence. It is necessary to state that the overcharged grave-yards which exist in the midst of this crowded metropolis, and in all large towns throughout the empire, are a chief source of these animal exhalations? Is it necessary to re-affirm that the *moral* and *physical* evils connected with the practice of intra-mural sepulture must *inevitably* continue so long as we continue to inter *unlimited numbers of dead bodies* in *limited* spaces of ground? It may be demonstrated that an acre of earth is capable of affording decent interment every year to 150 bodies, or thereabouts. In many of the parochial and other burial grounds, *each acre* of land is compelled to receive *annually* more than *one thousand* bodies, some even *two or three thousand, every year!*"

† "This high mortality has been traced to crowded lodgings, dirty dwellings, personal uncleanliness, and the concentration of unhealthy emanations from narrow streets, without fresh air, water, or sewers: the rapidity of decomposition, and the facility with which all kinds of animal matter become tainted and run into putrefaction, enable us to understand how, in a summer like the past, in which the temperature was unusually high, the diseases referable to an impure atmosphere should be so prevalent and fatal."—*Report of the Registrar-General.*

The construction of drains, and the means of efficiently trapping them, to keep back noxious gases, require early attention. It is an error to suppose that the interposition of water is a sufficient protection against the escape of noxious gases from sinks and cesspools; such is not the fact; as soon as the water is saturated with the gas, it escapes into the house or street, to the injury of the health of the inhabitants; yet builders rely wholly on the efficacy of water in preventing these emanations.

One of the prominent objects of Lord Lincoln's bill is, to remedy the present extremely defective supply of water for domestic uses; and the committee in their examination of the bill go fully into this question. Evidence is adduced to shew the great superiority of a constant over an *intermittent* supply of water as now furnished.

"The present daily consumption of water in the metropolis is equal to the contents of a lake fifty acres in extent, of a mean depth of three feet. The intermittent mode of supply having been universally adopted, there arises the necessity of receptacles to receive this mass of water, at the times when it is pumped out, and to retain it until it is wanted. Let the mind dwell for a moment on what the expense of these vessels must be. The actual cost for butts, tanks, and cisterns, is estimated at two millions of money; and those who have attentively considered the subject believe that this estimate is too low. It has been shewn that these receptacles are at once unnecessary and pernicious. On these grounds her Majesty's commissioners protest against the continuance of the intermittent system, and declare their opinion, that 'the system of constant supply offers advantages for the introduction of water into all houses which are unobtainable by any other mode.' It cannot but be useful to direct attention to the evidence on which the soundness of this conclusion is established; and the following may be taken as examples of the statements and opinions of the chief authorities on the subject.

First, by the mode of constant supply at high pressure, the water is preserved in a state of purity. 'All the evils arising from the want of proper receptacles for water,' says Mr. Hawksley, 'from neglect in cleaning the tanks and water butts, and from the accumulation of soot, dust, and other impurities in them, are completely removed by keeping the pipes constantly full. The effect of this arrangement is to substitute one large reservoir or tank well constructed, well situated, and under effectual care, for the many thousand ill-constructed, ill-placed butts and tanks, requisite to afford a copious supply on the common arrangement. It also prevents the impregnation of water with gas, which often takes place when the water is supplied on the intermittent system.'

'A never-failing and uninterrupted flow direct from the main,' says Dr. Playfair, 'is not liable, as in the case of collected water, to acquire a temperature unpleasantly high, and is secured from the absorption of vitiated air and unpleasant effluvia, to hasten the decomposition of the small amount of organic matter generally existing in water.'"

Many evils result from the want of water. "The obstacles to the maintenance of domestic or personal cleanliness soon produce habits of personal carelessness, which rapidly lower both the moral and physical condition of a whole population."*

Improvement too, is needed in the mode of laying gas-pipes. The water is injured, says Mr. Mylne, by the gas which escapes, and the sewers are rendered dangerous.

Amongst the errors and defects of the Bill, the committee name:—

"Neglecting to make it compulsory on water companies to give the public a constant instead of an intermittent supply, and to deliver it in all cases at as high a pressure as is practicable.

Neglecting to make it compulsory on water companies either to filter the water or to provide a sufficient area of depositing bed.

* Report of Poor Law Commissioners.

The omission absolutely to forbid the construction of cesspools in all new dwellings, and to provide for the compulsory removal of all existing cesspools as soon as the general introduction of sewers and drains, combined with an adequate supply of water, shall have rendered the universal adoption of the water-closet apparatus practicable.

Neglecting the entire subject of ventilation, one of fundamental importance in a sanatory measure.

It is not necessary to point out the great value of the constant supply for the prevention of fires. It is stated, that under this system at high pressure, even the smallest street might be supplied with a three-inch main, affording at least one 40-feet jet, which is equivalent to keeping the power of one engine and twenty men at every door, to act at one minute's notice after the first alarm of fire. In fact, no town ought to be considered fully supplied with water unless the pipes are kept constantly full, and arrangements are made by which a powerful force of water can be taken from them, at a minute's notice, to extinguish fire at any part of the town, high or low.

The mode of intermittent supply ought to be immediately abandoned, and the constant supply introduced, as the most effective, and, moreover, the most economical.

The importance of ventilation, to which reference is omitted in the bill, is forcibly dwelt on by the Committee, and at considerable length.

"The general introduction of an efficient mode of ventilation in dwelling-houses, and especially in the abodes of the poor, would be attended with beneficial results far beyond what it is possible to estimate; still, however, the adoption of compulsory provisions for this purpose may not be expedient, on account of the interference with the privacy of domestic life, which the enforcement of any such legislative enactments must involve. But this objection does not apply to buildings intended for public resort, such as churches, courts of justice, concert and assembly rooms, theatres, houses and rooms for the public use of which a license is required, factories already under government regulation and inspection, workshops, in which great numbers of work-people habitually assemble, lodging-houses, and schools. The introduction, in a general sanatory measure, of compulsory provisions for the purpose of securing proper ventilation in all places of this description, appears to be justified by the absolute necessity of the case, and to be free from any objection in principle."

The repeal of the window-tax is another part of the same great question, and should be loudly called for from every quarter. As was said at a meeting of delegates from various metropolitan parishes held last week, it should be repealed if it were only for its inequality and injustice, pressing, as it does, upon those who are the least capable of paying it. In a sanatory point of view, however, repeal of this abominable tax is imperatively necessary, operating, as it does, most injuriously on the comfort, health, and morality of the people. It positively offers a premium for the defective and vicious construction of houses, and tends to create those abodes of filth and disease which disgrace our land. The necessity of ventilation, and the advantages of light, are not felt sufficiently to induce the payment of even so many shillings a year; and cellars, privies, and staircases are left to be magazines of deleterious air, even in the houses of the middle classes.

Houses having less than eight windows are exempt from the duty; "but the window-tax," says Mr. Hickson, "is not therefore inoperative as it regards the working classes of towns. In London the poor do not live in cottages, but several families occupy lodgings in the same house, and that perhaps a house built

with the maximum of untaxed windows allowed by the law. One more window would possibly let a little sunshine into a sick room; but the landlord says No, the house would then have eight windows, and I should be liable to a tax of 16s. 6d. per annum. If the commissioners would examine personally the houses in which the poor live, in the close courts and alleys of the metropolis, they would be surprised at the number of dark staircases and filthy holes which, although in upper floors, are quite as ill ventilated and unfavourable to health as the cellars of Liverpool. And the permanent cause of this state of things is the option given to builders of saving money in taxation, by shutting out air and light."

Supposing it were shewn that Government could not give up the revenue produced by the window tax, or supply it in a far better manner, the present mode of assessment should at all events be altered, as operating most injuriously without advantage to any,—and a suggestion by Mr. Hickson would be worth consideration.

"I would submit," he said, to the Health of Towns Commission, "that all new houses should be assessed upon the principle, that every house built requires for light and air a certain number of openings in proportion to its cubic contents, and that these openings should be paid for whether they exist or not. This would at once remove every temptation to defective construction; and I think that after a house had been once assessed, the proprietor should be at liberty to make as many additional openings as he pleased; in fact, to turn the whole of the walls into glass if he thought proper. I most sincerely hope that the serious and earnest attention of the Commission will be given to this part of their inquiry. A great practical improvement can be effected without any loss to the revenue, and by a few very simple clauses. The majority of houses of the second and third class, will never be so constructed as to be healthful habitations while assessed to the window-tax as at present. I would pass a law to the effect, that if a house contained twelve squares on a floor, it should be liable for, say six windows on that floor; but that the owner might make six more windows on that floor if he pleased without any additional charge."

We are not disposed, however, to listen to any modification of this tax; it should be repealed altogether, at once and for ever.*

Amongst other documents on sanatory requirements now before us, is the memorial to the common council of the City of London adopted at a meeting of the inhabitants of the ward of Farringdon-without, presided over by Sir James Duke, M.P., in opposition to the proposed appropriation of a large sum of money to the making of a new street from King William-street to Queen-street. Opposed as we are to the course adopted by the corporation, we cannot agree with the able memorial in question, that this particular sum should be expended in making sewers and cleansing highways, rather than in widening streets, or forming new ones for the purposes of traffic. Still the memorial has considerable interest in our eyes, as shewing that at least one influential ward fully appreciates the importance of those sanatory reforms we are advocating. The memorial very properly reminds the common council, that "in addition to all the other and pressing obligations which rest upon that honourable court to promote the sanatory condition of the city, there is one arising out of the fact, that it was the corporation of the city that opposed Sir Christopher Wren's plan for the rebuilding of London, which was approved by the king, and which would have excluded all grave-yards, as well as all narrow, dark alleys without thoroughfares, and courts; as also all trades that use great fires, or yield noisome smells; while it would have secured perfect ventilation, and arteries of communication throughout the city, sufficient even for its present enormous traffic."

With corporation revenues exceeding 150,000*l.* per annum, it seems disgraceful that so little has been done in the city to reduce the amount of disease and mortality, and consequent poverty and wretchedness, which exists, and spreads from class to class until it touches the highest.

As to the cost of all the improvements most wanted,—good supply of water, clean streets, efficient sewerage and house drains, water-closets and good ventilation, according to the Health of Towns' Association, may be carried into every street and house of the metropolis for the small weekly sum of threepence halfpenny. "The work may be thoroughly done, and all immediate and contingent expenses provided for, by less than *a groat a week for each family*. Nay, it is confidently affirmed by those who have given most attention to the subject, that the refuse of our towns, properly applied, would alone defray all the expenses."

For this latter purpose one company has obtained an Act, and others are about to apply to Parliament.

In a letter to Lord John Russell by Mr. Morewood, on this subject, recently published, it is said,—

"The lowest estimated value of the sewage manure of the metropolis is 600,000*l.* per annum; the loss, consequently, since the last general war, is eighteen million pounds worth of fertilizing substance. No wonder we have had to exhaust the deposit of centuries in the Atlantic, and that hundreds of ships are now searching for Guano in the Pacific, whilst the Sperm Fishery there is left to other nations. 25,000 miles are traversed to fetch manure by ships, which cost the country at least three millions, whilst for less than half that amount, a Guano field, more valuable than Ichaboe, may be permanently secured to our agriculturists. Looking, therefore, at the proposed work merely in respect to the supply of manure, the existing and the prospective circumstances of the country may be said to demand the adoption of a plan at once so simple and so comprehensive for its preservation.

By the diversion of the contents of all the sewers of the metropolis, an immediate improvement will be afforded in the Thames, and in the course of a few years, good water would be within reach of the inhabitants.

Without instituting any comparisons between the modes by which it is proposed to effect the desired end, we must express an earnest hope that no long time will elapse before it is achieved. The gradual rise in the bed of the Thames, pointed out in our last number, is an additional argument against a continuance in our present most injudicious and wasteful practice.

The present moment is favourable to efforts to procure the reforms we desire; do not let it be neglected. The government are well disposed towards them; indeed, we may venture to say, some general measure is actually in contemplation. The vestry of Kensington recently appointed a committee to prepare a bill for the improvement of that parish, with the view of submitting it to Parliament; before proceeding, however, it was thought expedient to inquire officially of the government, if they contemplated bringing in any bill which might render this step on the part of Kensington unnecessary, and the reply was in the affirmative. We would suggest, nevertheless, that a committee be immediately appointed by every parish in England, to co-operate in effecting perfect sanatory reforms, and the adornment of the country. We assert, without fear of contradiction, that this is the interest of every man, woman, and child, in the kingdom.

* By a Parliamentary paper, printed in the session of 1845, it appears, according to *The Times*, that the total amount of window duty in the year ending the 5th of April, 1840, was, 1,486,023*l.* In the year following it was 1,774,638*l.*; in 1842, 1,775,151*l.*; in 1843, 1,776,799*l.*; and in 1844, it was 1,786,514*l.* In the last session Viscount Duncan obtained the following return:—"Accounts of the total number of houses charged with the window duty in Great Britain on the 5th day of April, 1840, 1841, 1842, 1843, and 1844, and of the net amount of window duty received on the 5th day of April, 1840, 1841, 1842, 1843, and 1844." In the year ending the 5th of April, 1841, the number of houses charged was 450,913, and the net amount of duty received was 1,545,106*l.* 5s. 11d. In 1842, the houses numbered 447,420, and the amount was 1,530,487*l.* 16s. 11d. In 1843, houses 446,108, and amount 1,726,278*l.* 3s. 9d. In 1844, houses 447,383, and amount 1,699,809*l.* 2s. 11d.; and in 1845, the houses numbered 453,736, and the net amount of duty received was 1,743,401*l.* 3s. 3d. In the year 1844, Bath paid 21,551*l.* in window duty; Birmingham, 11,249*l.*; Brighton, 15,912*l.*; Bristol, 14,068*l.*; Cheltenham, 7,122*l.*; Clifton, 8,169*l.*; Leeds, 7,175*l.*; Liverpool, 29,830*l.*; Manchester, 19,907*l.*; Newcastle-upon-Tyne, 6,916*l.*; Norwich, 6,674*l.*; and Plymouth, 11,195*l.*

THE OBJECTS AND RESOURCES OF ART IN INTERIOR DECORATION.

The few leading principles of art, which now seem so far unquestionable, that all are surprised there should ever have been any hesitation in admitting them, mainly are those which it had been the most difficult to ascertain. The doctrines, which meanwhile usurp the place of such admitted truths, are numerous and conflicting; asserted, whilst often incapable of being supported by reason, it requires many years to escape from the errors they originate. The history of architecture during the present century, and of the many dogmas and theories in style, which are now unsanctioned or debated, might indeed deter us from the attempt to discover and enunciate any of the fundamental principles of an art, where the search seems so often to deviate. But, feeling that no principles in interior decoration had then been published, which had received general sanction, or of which the form of expression was not more that of a fashion, soon to be succeeded by another, we endeavoured in a former volume,* to convey the explanation of such, as we deemed were so far able to be substantiated, as to be worthy of being acted upon. We had last to consider the general principles of form and colour, applicable to the decoration of walls, ceilings, and floors; and had also to notice the injury to the art of interior decoration, through so many of its works being designed by men who were not artists, instances of which are the tasteless ceilings, constantly put up in ordinary houses. We now think it necessary to refer to certain other principles, connected with the choice of a particular character of decoration, according to the purpose of each apartment, and to consider, what materials may be deemed the fitting resources of the art.

The principal object of an apartment being its actual *use*, whether on occasions of festivity, or for ordinary occupation, it does appear a mistaken practice, now too much sought after, to embellish it in such a manner, as may overpower the more important adjuncts of the occasion, or may interfere with the serenity of mind, which one might desiderate in a home. A far more satisfactory result will follow from a system of decoration, in which every feature does not at once strike the eye, but in which much beautiful detail is left for examination, rather than when the sole effect is one of dazzling colour, overpowering accessories, and much of the beauty of form, in the decorations themselves. The mistake in the Princess's Theatre, where the decorations are such as interfere with the main object, namely the effect of the stage, is perhaps worth mentioning as a parallel case. In the domestic circle, or in the library, many would delight in being surrounded with elegant outlines and combinations of colour, and these would reflect upon the spirits, and accord with the kindred current of thought; but most men would rather avoid the constant companionship of splendour. The labour or expense of production is assumed to be the same in each case. A chimney piece in deal, enriched as we have seen inferior examples in many old London houses, might be far preferable to one of Cararra marble, or any other

* Vide Vol. IV.—"Colour in internal decoration: Questions affecting its treatment;" "On the adaptation to furniture and interior decoration of woods not generally employed;" and "Principles of Art, considered in reference to the decoration of rooms."

dazzling material or colour. It is, of course, outline and colour, that are the implements, by the judicious use of which, elegance is attained, and the different materials available, are of course mainly valuable, in the degree in which they contribute to these elements. Intrinsic, or mercantile value, has hardly any concern with the effect of a work of art, as such, and it would rather betoken a want of skill in the designer, should the main attraction be the price, or the scarcity of the material. And, the use of the richest treasures of the quarry, or the mine, will never entirely supply the want of beauty of form and happy arrangement of colour, unless they have also and chiefly, evidence of the application of design.

The decorations, therefore, though they may court examination, and afford an increasing fund of delight, should never be in opposition to the purpose of an apartment. And, in all other particulars, they must be equally accordant, not only as regards the time of day at which the room will be occupied, but also, so that the decorations may not be inexpressive of the use. Thus an entrance, which is little more than a passage, is hardly the place for great enrichment, as any thing intended to detain the eye, would there inevitably fail in its effect. Nothing more than a passing effect of magnificence, such as may be a fitting preparation, and a medium between the plainness—speaking comparatively—of the exterior, and the ornamental character of the principal rooms, should be attempted. The quantity of light admitted would also be for similar reasons, a point for judicious management. Still, the decoration may appropriately convey some intimation, in a dwelling, of the tastes of the owner, and in a public building, of the purpose which it serves. The doorways to the different rooms, also, instead of being quite uniform, as they frequently are, might be judiciously varied in details, so as to bespeak the nature of the apartment, to which they open.—The principle, generally pertaining to entrances, may be considered likewise applicable to a large hall of entrance, with the exception, that the size may give it an appearance of purpose, in some measure to be associated with that of an ante-room, where it may be necessary to pause, or wait, and where consequently, some occupation for the eye may be pleasing and desirable. And, where space for the disposal of works of art, is not otherwise adequate, this part of the house becomes of too great value, to allow of the rigid application of our principle. Mr. Eastlake approves of the common practice of placing sculpture in the principal hall; for, a statue having an advantage which a painting generally has not, that of being seen from any point of view, may command attention where an oil painting would not. If paintings be placed there, they should be in fresco, since these do not require the best light, and can be examined from several stations.—Ante-rooms are better adapted for decoration which courts examination, than halls, because of their obvious purpose, and they may therefore claim a different treatment to either libraries or dining rooms, where the attention is supposed to be otherwise engaged. But, in general amount of embellishment, they should be strictly subordinate to the rooms, of which they are the entrances.—Staircases may be classed with halls, and here the objections, urged against large historical or allegorical subjects in ceilings, may be considered. The decorations, here and in all cases, should "appear to grow out of, and complete the architecture.—In a dining room, it may be questioned, whether the time at which it is used, and the purpose to which it is almost confined in many houses, will render much use of painting desirable. Mr. Eastlake thinks that portraits of celebrated individuals, and landscapes, though they are not likely to be duly examined, at the time during which the principal purpose of the room is fulfilled, may convey associations, to which the spectator is supposed to be alive at all times. But he allows, that a dining room, used for nothing else, is not the place where fine works of art should be bestowed, and he recommends small frescos and arabesques, having an air of elegance and festive splendour, in great variety, calculated to please the eye and the imagination, merely.—In libraries, it seems to have been much the custom, to banish every thing that might interfere with the supposed only purpose of the, apartment. But in the library of a man of taste, or of an artist, paintings and sculpture cannot be deemed always obtrusive; but coloured decoration should be used sparingly, and with judgment, being perhaps almost confined to the books themselves, or their cases. Still, the introduction of stained glass carries with it so many beautiful associations, that we might be disposed to retain it, where the mode of decoration would seem rather to aid, than to be opposed to the character of this place of study and meditation.—In most of the particular principles, to be considered in the decoration of drawing rooms, there would appear to be less danger of mistake than in other cases, since this being the apartment always devoted to hours of leisure and enjoyment; the decoration is governed only by such principles as we have before mentioned. The highest efforts of the pencil or the chisel, will obviously find here their most appropriate locality.

In the choice of materials, we seem to have a larger number for the exercise of art, than have hitherto been available, yet it is remarkable that few of them are employed to any extent. Plastering, paper-hanging, painting, and gilding, to which are added, festoons of drapery, are not the only means at hand; and yet it is by very slow degrees, that other resources are brought into use. We have native marbles, which may be obtained at a moderate expense, and which almost equal those of Italy; porcelain slabs and tiles can be prepared and enriched with paintings; and the beauty of the natural appearance of foreign and English woods is, as we have said, quite unappreciated. The resources of glass and enamel, whether used colourless, stained, or in the form of mosaic, are scarcely examined. Glass and porcelain might be employed more frequently than at present, not only for enrichments on walls, for panels of shutters and doors, and for handles, but for many other purposes, as the shafts of columns, in which, it has been suggested, a very beautiful effect would be produced by making them with a gilt metal core in the centre of a glass tube. Marble cement, scagliola, parquetried floors, wrought and cast iron, and stamped leather are all materials, with which every body is acquainted, but which it is remarkable, are very sparingly used in interior decoration. The discovery of the electro-type and electro-gilding, which might afford the means of most delicate enrichment, has hardly been turned to any account. Indeed, it is curious, that whilst these and similar inventions might be constantly enlisted, there should seem to be so little anxiety, to produce novelty of effect by such obvious and legitimate means. It ought not to be necessary to repeat now, that, in the words of M. de Chateauneuf, "the most durable materials are the most economical, and they carry with them a nobleness of appearance, not attainable by even lavish ornaments, costly at first, yet of a perishable nature. Consider what large sums are expended in the course of a few years, in keeping up houses that have to be repaired or refitted up, from time to time, as regards all but their bare walls, in consequence either of the materials getting soiled and shabby, or of the changes of fashion which, having been the only guidance in matters of taste at first, must continue to be consulted or conformed to, otherwise the whole looks out of date; whereas, that which is originally beautiful, independently of any particular fashion of the day, will so remain, let the caprice of fashion change as it will. I do really believe, there are many rooms that would have cost their owners less, had they been entirely lined with marble, and otherwise ornamented with fresco painting and mosaic, than they have done, in consequence of being furbished up every now and then by decorators and paper-hangers; and often in very questionable taste, while after all, the effect at the time, is at the best of an inferior kind." Architects cannot too strongly impress these considerations, evident to themselves, upon the public.

Some novelty would be gained in interior decoration by following the principle of Gothic architecture, which makes all construction apparent. Thus the hinges of doors could be shown, and in some apartments the beams and joists could be chamfered, and moulded, so as to produce an effect, superior to that of a flat, unbroken surface of plaster. Of course, in all such modifications, it is necessary to consider whether the previous method has really any recommendation; for if, as in the prevention of the passage of sound, in the case of the ceiling, the object could not be as well attained in the altered method of construction, it would not be desirable to make any change. Plaster work, not being adapted to represent any other material, should be treated precisely as what it is. Therefore, it appears a very useless and unsatisfactory attempt to show the joints, in imitation of masonry. A more appropriate enrichment would be by stamping a pattern upon it, whilst wet, being somewhat similar to the ornament of the Alhambra. Colour might, perhaps, be given to the surface, or the hollows, by the same process; and should this be accomplished, several colours might be printed at once, as in one method of block calico printing.

ROYAL INSTITUTE OF ARCHITECTS.

An ordinary meeting of the Institute was held on Monday evening last, Mr. Tite, V.P., in the chair. Amongst the donations announced was Mr. David Roberts's fine work on the Holy Land, presented by Mr. S. Angell, V.P., which the chairman justly eulogized as honourable to English art. The first copy of a new edition of the catalogue of works in the library was laid on the table.

A communication having been received from Mr. J. B. Papworth, stating that he had retired from the practice of the profession, the meeting, with expressions of considerable respect, unanimously elected Mr. Papworth an honorary member. By a coincidence, Mr. J. W. Papworth was admitted a fellow at the same meeting. We were glad to hear that a number of Mr. Papworth's friends in the profession have subscribed to present to him some slight testimonial of esteem.

Mr. Donaldson read a letter from M. Girault de Prangey, of Paris, acknowledging the honour of his election as corresponding member.

Mr. Angell then read a paper descriptive of the ancient city of Syracuse, which we shall give at length next week.

Mr. Scoles, honorary secretary, exhibited a drawing of an ancient bath in Syracuse (he considered it Roman), the vault of which was formed by series of earthen cylindrical tubes, each something like a wine-bottle with the bottom out, the smaller end of which entered the larger end of the tube next it, and so without involving the principle of the arch, formed a vault, in this case seven feet in span. The tubes were filled with cement, and covered on the top with a layer of tiles.

Mr. Donaldson communicated a paper by Mr. Browning, architect, on a mode of measuring and valuing carpenters' and joiners' work, with the view of obtaining greater correctness than by the mode now pursued.

The Chairman said, architects had been told recently, in a work which had attracted some notice, that this was a matter with which they should have nothing to do. But the fact was, they couldn't help it, and moreover would not do their duty towards their employers if they neglected attention to it. He had himself no liking for measuring and valuing, but nevertheless he was obliged to do it. As to any change in the mode of measuring, he thought it would have to come from the operatives rather than from the profession. (?) That it was much needed there could be no doubt. The mode of measuring stone was especially empirical. Measuring first the cube stone, then "face," "bed," and "joint," as plain work; then the sunk work; then the moulded work; led to a false result. Sir Robert Smirke, at the Post Office, had struck a blow at the system when he refused to allow the bed and joint to be measured, and gave an increased price for the cube stone. The engineers had cut the knot which the other attempted to untie, by measuring the cube stone, and nothing else, including all labour in the price. This, however, was manifestly an unsatisfactory mode. Returning to the general question, architects were bound to see that their employers were fairly dealt with. It was easy to certify an amount, but no man should do so unless satisfied as to its correctness. The art could not be separated from the business. Measuring might be delegated to others, but even then

the architect was justly held responsible. It was so also in Greece, where, if an architect's estimates were exceeded in the execution of the works, his own fortune was liable for the difference.

INSTITUTION OF CIVIL ENGINEERS.

IRON DOCK-GATES.

Sir John Rennie, president, in the chair. The first meeting of the session was held on Tuesday evening, January 12th, when a paper by Mr. Shears was read, descriptive of the iron dock gates constructed by Messrs. Rennie for the Russian Government, and erected at Sevastopol, on the Black Sea.

Sevastopol is very peculiarly situated amidst rocky ground, rising so abruptly from the shore, that there was not space for the buildings necessary for a dockyard. On account of the depth of water close in shore, and other natural advantages, the emperor determined to make it the site of an extensive establishment, and as there is not any rise of tide in the Black Sea, and the construction of cofferdams would have been very expensive and difficult, in such a rocky position, it was decided to build three locks, each having a rise of ten feet, and at this level of thirty feet above the sea to place a main dock, with lateral docks, into which vessels of war could be introduced, and the gates being closed, the water could be discharged by subterranean conduits to the sea, and the vessel being left dry, could be examined and repaired even beneath the keel. A stream was conducted from a distance of twelve miles, to supply the locks, and to keep the docks full; this, however, has been found insufficient, and a pumping engine has since been erected by Messrs. Maudslay and Field, for assisting. The original intention was, to have made the gates for the docks of timber, but on account of the ravages of a worm, which it appears does not, as in the case of the *teredo navalis*, or the *terebrans*, confine itself to the salt water, it was resolved to make them with cast-iron frames covered with wrought-iron plates.

There are nine pair of gates, whose openings vary from 64 feet in width, and 34 feet 4 inches in height, for ships of 120 guns, to 46 feet 7 inches in width, and 21 feet in height, for frigates.

The manifestation of such masses of metal as composed these gates demanded peculiar machines; accordingly, Messrs. Rennie fitted up a building expressly with machines constructed by Mr. Whitworth, by which all the bearing surfaces could be planed and the holes bored in the ribs, and all the other parts, whether their surfaces were curved or plain. The planing was effected by tools which travelled over the surfaces backward and forward, cutting each way; the piece of metal being either held in blocks, if the surface was plain, or turned on centres, if the surface was curved. The drilling was performed by machines so fixed, that the pieces could be brought beneath or against the drills in the required direction, and guided so as to insure perfect uniformity and accordance between them. Travelling cranes were so arranged as to take the largest pieces from the wharf and place them in the various machines, by the agency of a very few men, notwithstanding their formidable dimensions; the heelposts in some cases being upwards of 34 feet long. Each endless screw, for giving progressive motion to the cutting tools, was 45 feet long. Some idea may be formed of the manual labour avoided by the machines, when it is stated, that the surface planed or turned in the nine pairs of gates equals 717,464 square inches; and in some cases a thickness of three quarters of an inch was cut off. The surface in the drilled bolt holes equals 120,000 square inches.

The paper gave all the details of the construction of the gates, and the machines for making them, and was illustrated by a series of detailed drawings.

An interesting discussion followed, chiefly on the peculiarity of the site selected for the docks, and the supposed ravages of the worm in fresh water, as it was of unusual occurrence.

It seemed to be the opinion, that temperature of climate influenced the ravages of these insects. The meeting was held in the library, as the new theatre was yet too damp to be used with safety. It was announced the meetings would be held there in February.

GREAT BURSTEAD CHURCH, ESSEX.

Although Great Burstead is but a village, it gives name to the parish, including Billericay, a market town, from which it is situated about one mile. The church is an interesting one, and rather larger than the parish churches in the neighbourhood. It consists of western tower, with spire; nave and south aisle; chancel and south chapel; and north and south timber porches.

The south aisle and chapel are under a continuous roof; but the separation of nave from chancel is marked externally in the usual manner: the whole being roofed with tiles.

One of the best features of the church is the stone, embattled, perpendicular tower. It is divided into three stages by string courses, which have almost crumbled away. In the highest stage are four windows, all alike; viz., of two lights, cinque-foiled, square-headed, with dripstones. The middle stage contains, on the west side, a two-light, pointed, perpendicular window, with tracery (internally well splayed); and on the north side a cinque-foiled window.

On each side of the tower are about forty very small square holes, arranged in two lines. It is supported by buttresses, placed at right angles (at the north and south-west corners); these are of two stages, with plain slopes, and commence a little less than half way up the tower. On the western side is a pointed doorway, with bold mouldings continued down the jambs. The spire is apparently of shingles; it is rather high, but the base of it is not large enough for the tower.

The nave has on the north side (beginning at the west end), a three-light square-headed Tudor window, with dripstone; a small lancet, on the east side of, and close to, the north porch (the internal splaying of this window is very wide); and a three-light, early perpendicular window, with tracery and dripstone,—a very good window. In the south side of the south aisle are two two-light, pointed, early perpendicular windows, with tracery, but without dripstones; one on each side of the porch. At the west end of this aisle is a three-light Tudor window, under a four-centred arch, with dripstone.

The porches are opposite each other, and are placed in the second bay from the west end. They are fine, with good, high pitched, timber roofs; that on the south has the best roof; and that on the north a fine barge board. The latter is foliated, and on each side, between the eaves and the featherings, or cusps, a line may be traced, with a representation of crockets upon it. It is not cut deeply, and cannot be seen at any distance. The roof of this porch has but two principals, each being composed of a tie-beam with pierced spandrils, wall-plates, and king-post with struts. The north door is four-centered perpendicular, under a square dripstone, with notch heads; having angels in the spandrils, bearing scrolls. On the right hand of this door is a very perfect "benatura." It is recessed, square-headed, with dripstone, and were it in the interior, might easily be mistaken for a piscina.

The south porch has at the entrance a piece of framework, consisting of boarding up to the eaves (a four-centered doorway being cut through it); and from this springs a king-post, with a collar, supporting the gable end of the roof. The roof is simply a row of principal rafters on either side, with a collar some distance below the ridge piece, connecting each with that opposite; the beams are thick, and the effect very good.

The south doorway is plain pointed; and on the door is a good escutcheon: it is circular and pierced.

The chancel contains, on the north, one three-light window, under a four-centred arch, with dripstone; and a three-light square-headed Tudor window, without foliations, high up in the wall, and very short.

The east end is bricked up, and plastered over; and where the east window stood (perhaps still stands), a monumental tablet has been stuck up.

The chapel has at the east end a three-light window, under a four-centered arch, exactly similar to that in the north wall of the chancel, and that at the west end of the south aisle: and the two windows on the south are of the same design.

Interior.—The nave and chancel are separated from the south aisle and chapel by a row of arches resting on octagonal pillars, with moulded capitals and bases.

The pavement of the church has been lowered and made level; the ground exteriorly being much higher; there are no chancel or altar steps, and the pillars are uncovered below the bases, to the depth of about two feet.

Five principals of the nave and chancel roofs remain, each consisting of horizontal tie-beam, with king post and four struts or braces, two to support the ridge piece, and two the rafters.

Through the pillar against which the chancel screen must have rested, a small doorway is cut (consequently this pillar is much thicker than the others), which opens into the south aisle; probably it was formerly connected with the rood loft. In the south-east corner of the chancel is a perpendicular piscina; it closely resembles the benatura in the north porch, with the exception that it has no dripstone.

Here has been erected a large altar-piece, of which it cannot be said (to use the words of a last century topographical writer) "that the style is in accordance with the edifice in which it is placed."*

The south chapel has a groined oak ceiling, with bosses. In the south aisle are several original low open seats, the ends having carved panels; the design is good, and they are all alike. In the windows of this aisle are some fragments of stained glass; one contains a coat of arms. At the west end of the nave is a large gallery, and under it is the "old oak chest," covered with bands of iron, and secured by three padlocks. Close to this stands the font; it is octagonal, with moulded stem and base. There are no monuments of interest.

HISTORICAL NOTICE.

In the reign of Edward the Confessor, the lordship of Great Burstead (then known as Burghesfedam), consisted of one manor and ten hides, and belonged to Ingar, a Saxon theyn.

William the Conqueror having confiscated it, gave it to his brother, Odo, Bishop of Bayeux. The latter was deprived of his immense possessions, for his participation in a plot against Rufus in 1088, and this manor remained in the crown for many years.

The first mention of it after this event is in 1263. "The Abbot of Stratford held of the donor of the Mareschall," Mareschalls, Earls of Pembroke, "half a fee in Bordestedd."—*Inq.* 47, H. 3.

Thomas, Earl Stafford, who died in 1393, had half a fee in Great Burstead, which the same abbot held.—*Inq.* 16, Ric. 2.

And Edmund Stafford (died 1403), and Humphrey Stafford, Duke of Buckingham (died 1459), possessed each half a fee.

John Mowbray, in 1433, possessed two fees and a half. These show the lords paramount of the lands in this parish.

It contains three manors; viz. Great Burstead, otherwise known as Burstead Grange, West House, and Blunt's Walls. The first belonged to the Cistercian abbey of Stratford Langthorne, which possessed most of the lands in this parish; but only some of the donors of them are known.

In 1262, they held a fee of Earl Mareschall; donor unknown. Henry III., in 1253, and Edward I., in 1285, granted the abbot and monks a market and fair in Great Burstead. Their greatest benefactor was William Langdich, who in 1358, granted them one messuage and 345 acres of arable and pasture land, and 44s. rent in Great Burstead; held of the Earl of Gloucester. In 1388, John Henny, and Rohesia, his wife, gave them 60 acres of arable land, and 1 acre of wood in this parish. In 1476, Edward IV. granted a market and two fairs in Billericay.

In 1515, this manor was let for thirty years for 31*l.* 7*s.* 4*d.* It was granted by Henry VIII., in 1539, to Sir Rd. Riche; and remained in this family till 1600, when Sir Edwin Riche sold it to Sir John Petre, knt., in whose family it still remains.

The manor of West House belonged to the same abbey, and at the dissolution it was granted to the same Sir R. Riche. He sold it; and, passing through various hands, it came, during the last century, into the possession of Guy's Hospital.

* This is stated of a "large and commodious pew," erected by one of the Bishops of Hereford in the choir of his cathedral, during the last century.

The manor of Blunt's Walls was so called from an ancient family of the name of Blunt, and Walls was added (on account of some earth works here), to distinguish it from the manor adjoining, in the parishes of Butsbury and Stock, held by them. This estate belonged to the priory of Mountnessing. In 1525, it was granted, among many others, for the endowment of Wolsey's colleges; but on his disgrace, falling to the Crown, it was granted to Sir Richard Page, knt., in 1530, for the term of his life, without any account. At his death, in 1554, Henry sold it for 191*l.* 19s. 5d. to Sir Wm. Petre; it still belongs to that family.

The hamlet of Billericay is first mentioned in 1843, as the hamlet of Belenca. There is a chapel here; the founders are unknown, but supposed to have been the Sulyards, of Flemyngs, in the parish of Runwell.

It was a chantry chapel, but mass was sung and sacraments administered; which last was not the office of a mere chantry priest, so that it appears to have been partly built for the accommodation of the inhabitants of Billericay, as, in the winter, inundation prevented them from attending the parish church.

In the book of Chantries, after other information, is this entry:—

The value of all the goods, jewels, &c.	
One small bell praised at	1s.
One hutch	1s.
Two vestments, one surplice and other implements	2s. 6d.

King Edward VI. sold this chapel and the chantry lands to Mr. Tyrell, who retained the lands, but sold the chapel to the inhabitants of Billericay. It was re-consecrated in 1693, by the Bishop of London, and dedicated to the Virgin Mary. Mr. Bayly, circa 1654, left 20*l.* for the education of ten poor children.

The great tithes of this parish belonged to the abbey of Stratford Langthorne, being appropriated to them; and they had the advowson of the vicarage, to which they presented till the dissolution. Then they both passed through the family of Riche, into that of Petre.

Abridged from "Morant's Essex."

AMATEUR.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

"Effossion" of Roman Baths in a high state of Preservation at Baden.—In the middle of last year, the remains of a fine Roman bath dressed with marble—the internal round space inclosed by a square of walls and flanked by semicircular chambers in the four angles, were discovered; but have been since *demolished*, for the sake, as it would seem, of testing the durability of these ancient fabrics. Luckily, however, another discovery has taken place very lately, near the church of the Holy Sepulchre, at the foot of the *Spring-hill*, which shews, how extensively these thermal waters had been used by the Romans and the inhabitants of Southern Italy. The first traces even, at some inconsiderable depth, bespoke the existence of a Roman bath. The angle of the building, first discovered, exhibited two walls, which were internally covered with oblong, somewhat rounded, perpendicular tubes of burnt clay (in the clear 4 in. by 2 in. and 1 foot high)—which formed a row of connected air-tubes open *below*, whose destination for heating the bath could not be mistaken. The floor, supported by small pillars, contained a hollow space, also for the sake of heating. The earthen flags of the floor, burnt with that perfection peculiar to the Romans, measure 2 feet square each, and are 2 in. thick. They are placed on a stratum of lime, mixed with fragments of bricks, under which again, a floor, formed like that above, is situated. This whole flooring (8 in. thick), is supported by small round pillars of brick, measuring 7 in. in diameter—which, surmounted by an abacus, are placed at a distance of 12 in. from each other, in rows parallel to the walls, and thus form a hollow space 3 feet 2 inches high. The extent of this bath-chamber has not been yet ascertained, but seems considerable. The analogy with the thermæ of Pompeii, and the account of Vitruvius, leave no room for doubting that a vapour-bath was here contemplated. The difference between the Pompeian and Baden building is merely, that in the former the supporting pillars are *square*, and that there the walls of that *Calcidarium* are not covered with tubes, but square brick plates, fixed with iron to the walls. Whatever further excavations may yet bring forth—still, it is certain, that in no other ancient building the hollowings of the floor (*suspensura*) have been so well preserved and demonstrated, in none the lathing of walls with earthen tubes. It is also important to observe, that Roman houses effossed at Sinzheim and Pforzheim, possess also hollow floors, although there no use for hot baths was anywise to be supposed.

"Freemasonry in its true Signification."—Under this title Dr. G. Kloss has published a work, dedicated (by permission) to the great Orient of Frankfort. Dr. G. denies all mystic and mythic origin of the fraternity, and puts its date at *scarcely two hundred years*, having then sprung up from the guilds of the great masons (*Grossmannes?*) or stone-masons in England; and says, that the ideas of primordial Christianity, Templarism, Rosecrucianism, and secret knowledge, had never entered the heads of the founders, either in London, or York, and Edinburgh.

Cornelius's Opinion on the lately discovered Fresco Painting of Raffaelle, at St. Onofrio, Florence.—This splendid art-relic, which, moreover, had the good luck to remain unscathed by the hands of *cobbling restorators*,—has given rise to much dispute, being first ascribed to Raffaelle, but subsequently to the Florentine painter, Neri de Bicci, who died twenty-two years before Raffaelle was born. As, however, the celebrated engraver, Mr. Jesi, has undertaken to publish it in a large-sized plate, the public will have ample means of judging by themselves. The following is the drift of a letter addressed by *Cornelius* to Messrs. de la Porta and Zotti, at Florence. According to his opinion, this picture (representing the Last Supper) is to be placed beside the finest of the above capital—conjointly with those del Carmine and de la Annunciata. "I recognize,"—continues Mr. C.—"in this wall-painting a depth of sentiment and a characteristic execution, as neither the master of Raffaelle, nor any contemporaneous painter, could impart to their works.—Everywhere that enlivened genius and divine purity are manifest, by which Raffaelle overtops all other painters. In the *ensemble* of composition, that same architectural style is to be recognized, which the Urbinate had so fortunately introduced in the pictures of the Vatican. And what concerns those beauteous, infantile figures, to be seen in the skies—they at once bespeak the hand of him who alone could depict images so true and lovely."

FREEMASONS OF THE CHURCH.

ANTIQUITIES OF CAMBRIDGE.—DISCOVERIES IN WESTMINSTER ABBEY.

JAN. 12.—The first meeting for the present year was held in the Society's new rooms, No. 10, Carlisle-street, Soho-square, Mr. French in the chair. Among the persons present, was the Right Rev. Lord Bishop of Tasmania.

The Rev. David James, M.A., rector of Kirkdale, was elected an honorary fellow, and one of the chaplains. Mr. George Godwin, F.R.S., was also unanimously elected an honorary fellow.

Mr. W. P. Griffith, secretary, moved,—"That a petition be presented to both Houses of Parliament, praying that the immediate attention of the Legislature may be directed towards an improved drainage and ventilation of the present wretched courts, alleys, yards, &c., throughout London; and further, that the window tax, or *tax upon light, health, and morality*, may be repealed forthwith." (We shall be glad to see this example extensively imitated.)

Mr. W. Harry Rogers was then called upon to read some observations upon the antiquities of the University of Cambridge. He commenced by saying, that it must be evident to those who are acquainted with the many treasures yet existing in this ancient seat of learning that to do justice even to a portion of them would require far more than the limited space of time now allotted to him, since a volume alone might be devoted to the Royal Chapel of Our Lady and St. Nicholas, to the church of the Holy Sepulchre, or to the Early English architecture of Jesus College. That a portion of ground situated on the banks of the Cam was at a very remote period occupied by some kind of university, is easily proved, and it is nearly as certain that Saint Felix in the early part of the 7th century forwarded within its walls the study of theology. Some, indeed, placing perhaps too much reliance upon the truth of legendary lore, have endeavoured to represent that many hundred years before the birth of Our Saviour, a modest species of learning was cultivated in Cambridge, and have revived from mouldering chronicles the names of its first philosophers. They have considered themselves borne out in their supposition by the remains of British art, which have been discovered in the neighbourhood, added to the now universal belief that the extensive mound known as the Castle Hill, situated at the north-western extremity of the town, is entitled to an earlier date than that of the Roman invasion. But to leave theory for fact, we know that the eleventh and twelfth centuries combined to strike the centre of that circle of celebrity of which Bacon, Milton, Porson, and Newton have since formed illustrious radii. At the period the university became suddenly rich, and made the wisest use of its liberal resources, Europe was fast merging from the darkness and ignorance of ages. Throughout her colleges and ecclesiastical schools, was added to the old routine of divinity, the germ of a more refined education. The trivium and quadrivium of learning, which comprised grammar, logic, rhetoric, poetry, arithmetic, geometry, and astronomy, were now considered necessary to the dignity of the clergy. These seven important studies are curiously enumerated in the old monastic distich:

> Gramm: loquitur, Dia: vera docet, Rhet: verba colorat,
> Mus: canit, Ar: numerat, Geo: ponderat, Ast: colit astra.

The next step was the interference of royalty in the affairs of the University, when in the first instance, Henry III. took into consideration the proper means for establishing its permanency, and granted to its members an express charter of privilege in 1230. Mr. Rogers then described the various memorable endowments since lavished on the University, and called the attention of the Society, particularly, to the architectural improvements at present in hand in various colleges; and alluded to many of the smaller works of antiquity which some of them contain. With regard to King's College Chapel, he considered that the carved stalls were for the most part coeval with the organ screen of Anne Boleyn, and that the tabernacles only were the gift of Thomas Weaver in 1595. Some extracts were then given from original documents in connection with the erection of the Chapel-roof by the Society of Freemasons. At the close of the subject, Mr. Rogers presented a metallic rubbing of the brass of Sir Roger de Trumpington, from the village of Trumpington, near Cambridge, and said to be the most ancient in existence.

This elicited some valuable remarks from Mr. Wyckham Archer, who suggested, that if the Rev. the Dean of Westminster would permit the stones in the floor of the Abbey to be taken up, there would be found under them many beautiful brasses, which had been turned over during the Civil Wars, for protection. The Bishop of Tasmania undertook to solicit the Dean's permission, observing, that the turning of stones would not be new to him.

CHALK FOR FUEL.—A paragraph on this subject, which was quoted from our pages by all our contemporaries, has led to a letter to *The Times*, stating that, in consequence of the suggestion, in Dunstable, where chalk abounds, the hint has been taken advantage of by Mr. Clarke, chemist, who, after a few experiments, has succeeded in greatly improving the raw material, by drying it in a kiln till the whole of its own watery property is evaporated, after which it is thrown into a vat containing some chemical compound, and, after remaining until it is thoroughly saturated with the preparation, it is redried, and is fit for use, giving an intense heat.

ANTIQUITIES OF TREVES.

HOUSE NEAR THE PORTA NIGRA.

ANTIQUITIES OF TREVES.*

HAVING spoken so fully on the principal, or at least the most perfect, Roman antiquity in Treves, in our previous paper, we shall now take a more rapid view of the other erections of the same period, with which this ancient city abounds.

The palace of Constantine is the popular name bestowed on one of the most interesting of these remains. It is built entirely of the ordinary flat Roman tiles, which have a singular effect when used in the construction of so large a building. The mortar between them is of great hardness, composed in the ordinary Roman method, with pounded tile scattered through it, and which renders their buildings all but indestructible. It measures 97 feet in height, and 225 feet in length. It had originally a tower at each angle, but one of them is now down. When perfect, the front was pierced from end to end, with two rows of open, round-headed arches, one above the other; those of the lower tier encircled with two concentric ranges of brick voussoirs, the upper with three. In the tower were likewise similar apertures, disposed in the same manner; but all of them, in later times, have been filled up, and small square windows inserted in them, of the fashion adopted at the end of the 17th century, when the building was converted into an electoral palace. At that time the greater part was destroyed, leaving only now standing the western side of the building, with the north-eastern semi-circular tower, it having originally been a quadrangular erection with similar towers at the angles.

* See p. 14, *ante*.

Since the occupation of Treves by the French, it has been used as barracks, into which they had converted it. It is now, however, undergoing renovation, and restoration to something like its original purity. Workmen are busily engaged in clearing away the modern additions, and we were agreeably surprised at finding bricklayers employed in pounding tiles, to work in the mortar necessary for the restorations in the style of the older work. It is now said to be the intention of the King of Prussia to convert the buiding into a church for Protestants.

The Thermæ are close to this building, and it has been doubted whether they may not have been originally all one; indeed the palace just described has been called by some writers a mere covered entrance to them, the large open arches all round being a shelter for promenade. Others call it a hippodrome, a basilica, a hall of justice, and a hall of commerce. The thermæ themselves are doubted, and by some called a theatre. It is not easy to describe them in their present ruinous condition, except as a grand mass of building, imposing in decay, and offering much to reflect upon and study.

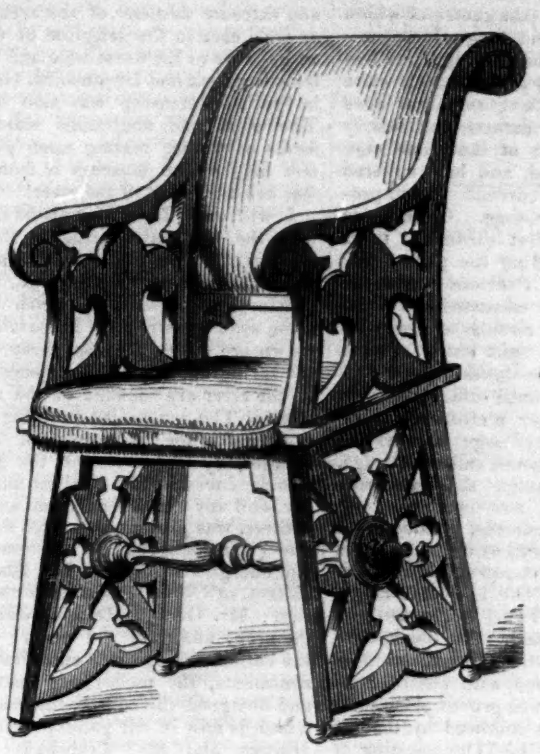
The Amphitheatre, about which there can be no conflicting opinion, is constructed on the side of a hill, so that the slope on one side forms one-half of the embankment upon which the seats were placed. The seats are now gone, and the building a mere wreck, but the wall is perfect round the lower area, and the trench dug beneath it in the slaty rock, which forms its floor. The entrances are still perfect enough to comprehend those devoted to carriages and horsemen, and those used by foot passengers. The length of the amphitheatre is 219½ feet, its breadth in the centre 155 ft. The whole of the neighbourhood contains traces of Roman work, and is worth exploration.

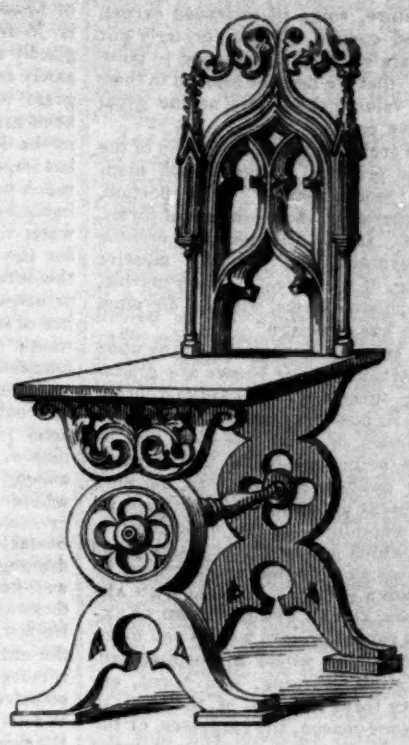
Besides the bridge, the foundation of which is Roman, there is also in Treves two great square towers, said to be the work of that people, one in Diedrich Strasse, the other in *La Cour de la Regence*. The small windows in them are separated by a pillar. They have been believed to be towers of the original Roman wall, but it is now doubted whether they are older than the ninth or tenth century.

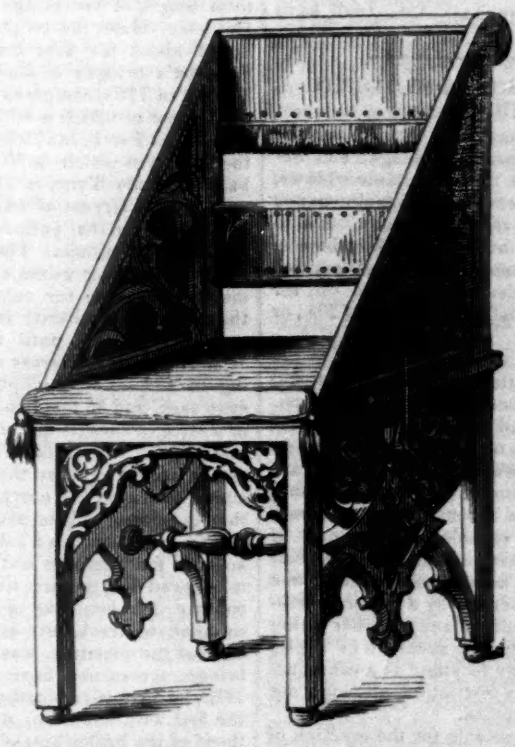
The substructure of the cathedral is Roman, and a careful observer may detect much that is of that age in its walls, as well as some capitals evidently of the same period, imbedded in the more modern masonry of the choir. In the screen at the sides, some interesting discoveries have been made of capitals, ornamental arches, and figures of saints, the work of the twelfth century. All these are particularly curious, as they show the use of *colour* at this time; for the various ornamental enrichments of the arches and capitals are painted in various tints.

It is not in our plan to give a detail of the other churches within this interesting city or in its immediate neighbourhood. We may say, that the artist, architect, and antiquary will all find abundance to occupy their attention. The ancient cross in the market-place is, however, a conspicuous object, and which tells you in good Latin, "Henricus Archiepiscopus me erexit," in the year 958. Opposite this cross, in the street leading to the cathedral, is the old Hotel de Ville, now an inn, and known as

GERMAN GOTHIC CHAIRS.







the Red House. It is an interesting building of the 16th century, with many a quaint figure and motto on it, not the least boastful of which is that which tells you, that Treves existed 300 years before Rome; piously adding, "May it exist for ever, amen."

Of domestic architecture at various periods Treves possesses some curious specimens. The most ancient and interesting is the one we have engraved. It is now a wine shop, and is known by the sign of the Three Kings. It is situated in the street of St. Simeon, very near the Porta Nigra—it is of stone. The lower story has been much modernized by an alteration in its windows. The upper story is in its original condition, and in the Byzantine style, and believed by some to be as old as the 12th century.(?) The detail of this upper part is very interesting; but its simplicity speaks to the eye so forcibly as to render a detailed description unnecessary here. As an example of early domestic architecture it is valuable, and adds another variety to the many specimens given in this journal. F. W. F.

Mr. Editor,—Everybody must be pleased with the clever representation of the gateway at Treves in your last number.

But it has a few inadvertencies as to detail, which I am sure that its talented author will not be offended at my pointing out; and more especially, since some of them affect the character which this gateway has lately acquired of being a monument of Etrurian architecture.

The first of these relates to the diameter of the columns, which generally is too great; and the second, to the proportions and form of the several members of the capitals in the lower stage, and which M. Schmidt, the city architect of Treves, has demonstrated to be each of the same height, viz., 10 inches, and all of *rectilinear* profile.

I may likewise state, that the small arcade under the apsidal gallery of the 12th century portion should consist of *semi-circular* and not trefoliated pointed arches; and that the St. Simeon of Treves was not the St. Simeon Stylites, who died at Antioch, A.D. 460.

I am, Sir, &c., W. Bromet.

Damage to Buildings at Bordeaux.—The local journals of the 24th ult. announce that the cathedral, custom-house, and exchange, have been greatly damaged, many other buildings stripped of slates, chimneys, &c., and the suspension bridge over the Reole entirely swept away by tempests.

GERMAN GOTHIC CHAIRS.

Herr Heideloff, a German architect, who has devoted much attention to Byzantine and Gothic decorations, and has a good reputation in his own country, has contributed to the current number of the *Art-Union Journal* a series of designs for chairs, founded on originals still remaining in the old castles of Germany. We are indebted to the proprietors of that journal for permission to place three of these before our readers.* They all display a trace of Byzantine feeling, and will not altogether satisfy a fastidious critic; still they are valuable, and supply good hints.

The object of the article which accompanies them is to advocate the employment of artistical talent in decorating and furnishing our houses.

"When Louis, the reigning sovereign of Bavaria," says the writer, "commanded the construction of a new palace, he said to his architect: 'I desire to build a palace which shall be "All Art;" from the architecture to the commonest articles, every thing shall be designed by my best artists; nothing shall be copied; I will have no "upholstery."' This project, worthy of a high and enlightened mind, has been fully carried out; and the new palace, externally and internally, is literally a monument of artistic invention. A grand idea is completed! From the saloon of entrance into the throne room, a gradation of decoration is observed; beginning by simple forms and modest colours, up to the luxuriance of gilding, ornament, and vivid hues.

'I will have no looking-glasses to usurp the places I can occupy with pictures,' was another of the sovereign's commands in the furnishing of his Palace of Art. Thus, every thing is in perfect harmony of style; whatever the style

* The present number of the *Art-Union Journal* deserves the highest praise. The illustrations alone are worth double the cost of the whole. As a specimen of printing and "getting up" it stands quite alone.

may be—it is strictly adopted; not an object violates the unity of thought.

In the most magnificent mansions of England this completeness has scarcely ever been attained; there is always some incongruous piece of furniture, some ill-patterned carpet, badly designed curtain cornice, or ugly gilt frame. We are so much accustomed to these 'upholsteries,' that we become blinded to their anomalies, by valuing them only at the great sums they have cost.

Even in the architectural composition of the interior of the principal rooms of such mansions, what 'monstrosities' of proportion, jumblings of character, and violations of forms, are displayed. Lanky pilasters and column patchwork cornices, and clumsily massive chimney-pieces of the purest Carrara marble, carved into repulsive forms, without an atom of skill, much less of design!

It is true, a brighter dawn gently opens upon us, and the interiors of our houses are gradually becoming covered with DESIGNED ornament. Hope is, however, chilled by the certainty, that much of good intention will be wasted by its being consigned to incapable hands. It is not here our province, nor does it suit our present purpose, to investigate all the bearings wherefore—or the under-current of influences which makes attempts sickly and feeble; all comment on the subject may be condensed into a sentence, 'EMPLOY AN ARTIST TO DESIGN, AND AN UPHOLSTERER TO EXECUTE.' You cannot go into a shop and order works of art as you would a portmanteau. Study, cultivation, learning, and talent, are wanting; they form no part of the stock in trade of the stone-mason, the carpenter, or the upholsterer. If, therefore, we would make our houses palaces of art, let us impress upon our minds the noble 'order' of the monarch of Bavaria: 'I will have ALL Art—I will have no upholstery.'"

THE MASONS' PROVIDENT INSTITUTION.

THIS institution has been formed for the purpose of granting pensions to aged and necessitous members of the trade, their widows, or orphans, and the erection and maintenance of an asylum. In order to raise a fund to carry these objects into effect, subscribers of 10s. per annum, or donors of 5*l.* 5s., are entitled to one vote at all elections, and so on for every additional annual subscription of 10s., or donation of 5*l.* 5s.

The persons eligible to be elected to the benefits of this institution are—masons and sculptors who have been engaged at the business for ten years, and who are fifty-five years of age, their widows, or orphans, and who do not receive 10s. per week from any source, independent of this institution (sick or superannuation allowance from a benefit society excepted, which shall not be considered as a part of their income), and have been members for four successive years by annual subscription, and who shall be recommended by a donor or subscriber.—In the event of any member being totally disabled, either by accident or bodily infirmity, he is eligible to stand as a candidate for the benefit of this institution, although not of the age above specified.

Until funds are available for the erection of an asylum, the sum of 7s. per week is to be allowed to the successful candidates.

The committee have just now issued the rules of the society, and while they properly say, "It is a duty we owe not only to ourselves, but to our wives and families, to make that provision which individually we cannot, but collectively, in this institution, is at our command;" they appeal for assistance to their employers and to architects, as their natural protectors.* In the list of donors already published are the names of Mr. Wakley, M.P., Messrs. Freeman, Piper, Nowell, Jackson, Baker, W. Cubitt, T. Cubitt, Seth Smith, W. Harrison, and other well-known builders.

* "In appealing to those who have been justly termed our natural protectors, the 'Architectural Profession,' whose skilful and elaborate designs shed a lustre over and adorn our country, the promoters of this Institution trust they may not be thought too presumptuous in seeking their support, considering the masons' trade closely allied to that eminent profession. When we contemplate those noble edifices which have been erected, and the public works in progress, made prolific by the aid of masonry, we venture to indulge the hope that the industrious mason has some claim upon their patronage and support, and that those charitable and kindly feelings which have ever actuated the profession, will be extended to watch over and protect our Institution."

SOME REMARKS ON BRIDGES.*

WESTMINSTER BRIDGE, by Labelye, in 1740-47, may be considered the first example of extensive structures of this kind. It consists of 13 semicircular arches (the centre of which is 75 feet span), 1164 feet long. It was originally intended for a wooden bridge, and was partly commenced on this principle. It was a great work at the time, but, as might have been expected, contained defects, particularly in the foundations, which at that time were but imperfectly understood, and have suffered much by the scour of the current. It will probably be rebuilt in a short time. Caissons, or water-tight chests, were first introduced there for the purpose of founding the piers below the level of low-water. Previous to this, the principal existing bridges consisted of a number of small Gothic, or of circular arches, with rough piers of masonry built either upon a foundation of loose rubble stones thrown promiscuously into the river until sufficiently high and solid, or upon timber platforms resting upon piles surrounded by large bulwarks of timber, filled with loose stones, called starlings, which materially contracted the water-way where they were placed, and, by causing increased rapidity in the current, created great obstacles to the navigation, as well as to the drainage of the adjacent country. Of this, the well-known examples of Old London Bridge, those at Newcastle-upon-Tyne, Rochester, and Belfast, may be mentioned. All these, with the exception of Rochester Bridge, are now removed, and are replaced with others, constructed upon the modern improved principles. Westminster Bridge was followed by that of Blackfriars, by Mylne (1760-71), consisting of 9 semi-elliptical arches, the largest of which is 100 feet span, and 41 feet 6 inches rise. The total length of the bridge is 995 feet, and 45 feet wide. Here the elliptical arch was introduced about the first time in this country. Smeaton's bridges of Coldstream, across the Tweed, in 1763, composed of 5 circular arches, the largest of which is 61 feet span; that over the Tay, at Perth, in 1766, of 9 circular arches, the largest of which is 75 feet span; at Hexham, over the Tyne, in 1767, of nine circular arches, the largest of which is 52 feet span, and others, for that period, were works of considerable magnitude. These were followed by numerous smaller works all over the kingdom, more remarkable for convenience and utility than for any peculiarity in their construction worthy of notice, until in 1809-1817, when Waterloo Bridge, across the Thames, consisting of 9 equal semi-elliptical arches, 120 feet span each, and 35 feet rise, was built of granite, in a style of solidity and magnificence hitherto unknown. There, the elliptical arch, with inverted arches between them, to counteract the lateral pressure, was carried to a greater extent than in former bridges; and isolated coffer-dams upon a great scale in a tidal river, with steam-engines for pumping out the water, were, it is believed for the first time, employed in this country. The level line of roadway, which adds so much to the beauty as well as the convenience of the structure, was there adopted. The bridge across the Severn at Gloucester, in 1828, by Telford, is worthy of remark, as being the first with one arch, of 150 feet span, like those of the bridge across the Seine at Neuilly, near Paris, by Perronet, where the interior of the arch is elliptical and the exterior circular.

New London Bridge (1825-31) consisting of five semi-elliptical arches, viz., two of 130 feet, two of 140 feet, and the centre 152 feet 6 in. span, and 37 feet 6 in. rise, is perhaps the largest elliptical arch ever attempted. The roadway is 52 feet wide. This bridge deserves remark on account of the difficult situation in which it was built, being immediately above the old bridge, in a depth from 25 feet to 30 feet at low water, on a soft alluvial bottom, covered with large loose stones, scoured away by the force of the current from the foundation of the old bridge, the whole of which had to be removed by dredging, before the coffer-dams for the piers and abutments could be commenced, otherwise it would have been extremely difficult, if not impracticable, to have made them water-tight; the difficulty was further increased by the old bridge being left standing, to accommodate the traffic, whilst the new bridge was building, and the restricted water-way of the old bridge occasioned such an increased velocity of the current, as materially to retard the operations of the new bridge, and at times the tide threatened to carry away all before it. The great magnitude and extreme flatness of the arches demanded unusual care in the selection of the materials, which were of the finest blue and white granite from Scotland and Devonshire. Great accuracy in the workmanship was also indispensable. The piers and abutments stand upon platforms of timber resting upon piles about 20 feet long. The masonry is from 8 feet to 10 feet below the bed of the river.

* From Sir John Rennie's address to the Engineers.

I will conclude this division of the subject with the celebrated bridge across the Dee at Chester. It consists of a single arch, the segment of a circle 200 feet span, with a versed sine or rise of 42 feet, which is the largest stone arch upon record. The arch stones at the crown are 4 feet 6 inches deep, and 7 feet at the springing, and the abutments on both sides of the river are founded on the new red sandstone. The centre for building the arch was remarkable for its simplicity, strength, and rigidity, by which means the greatest effect was produced by the smallest quantity of timber, and any change of form, so prejudical in centres, was prevented. This fine structure is due (it is believed) to the combined talents and energies of the late Mr. Harrison, the architect, of Chester, who made the original design; Mr. George Rennie, who equilibrated the arch, and gave the proper dimensions of the voussoirs and form and dimensions of the abutments, the modes of constructing them, and designed the centre, the original model of which is now in our gallery; and to Mr. Jesse Hartley and Mr. Trubshaw, who worked out the details, and carried the whole into effect.

A proper theory of the equilibrium of the arch, which shall satisfy all the conditions of the question, when applied to practice, may be said to be still wanting, though much valuable information may be derived from the scientific works of Hutton, Attwood, Moseley, Gwilt, and others, on the subject.

Oblique or skew bridges have but recently obtained extensive use. Chapman built some in Ireland many years ago, and wrote an account of his mode of constructing them. On railways they were introduced by Stephenson, and are now generally employed. Buck's excellent treatise on the principles and practice of their construction greatly facilitated their execution.

DESTRUCTION OF LUSK CHURCH, COUNTY DUBLIN.

A SCANDALOUS act of vandalism has just been committed on the ancient church of Lusk, and that by persons who should have been the first to protect this venerable relic of early days.

An effort has been made by some members of the "Council of the Celtic Athenæum," to stop the progress of destruction, but in vain. Several letters were addressed by the secretaries to the Ecclesiastical Commissioners, against taking down the old church, the site affording ample room for the new one. No answer being returned, *after a fortnight*, a personal interview was sought from the architect, who referred the matter to the secretary. At last the fact is announced, "the fine old abbey church that stood the test of centuries of wind and weather, is now one heap of ruins." Two curious monuments of the 16th century lie with the "*rubbish*." The Commissioners' secretary, 'tis true, gave the very polite hint, that "the monuments can be re-erected in the new church *at the expense of the parties interested*."

Lusk Church was an old fabric at the dissolution of religious houses, and seems to have been built adjoining a still more primitive structure,—the word "lusk" being derived from the Irish word *luska*, which signifies a vault. To shew the *notions* our architects hold in reference to these ancient churches, I shall merely quote a sentence from the contractor's specification for the new church of Lusk: "The old church is to be taken down, the materials to become the property of the contractor, and the *rubbish* to be removed or levelled."—I am, Sir, &c. J. K.

Gorey, 5th Jan. 1847.

NOTES IN THE PROVINCES.

The Taunton people, albeit somewhat slow to move, even in the now pretty fairly worked and polished groove of municipal and sanatory reform and improvement, have at length summoned up activity and spirit enough to *resolve* on an "application to Parliament for an Act for repairing, lighting, watching, watering, cleansing, regulating, and otherwise improving this town, and for improving and regulating the market-place." Advertisements have been issued, and it is to be hoped that the Tauntonians will not break down beneath the accumulative weight of such a series of simultaneous resolutions, nor afford us any longer grounds for taunting them with the occasionally futile and retrogressive progress with which their long projected movements have hitherto dragged their slow length along. Attention, it seems, has of late, moreover, been pointed to the state of the drainage of the town; not that there is any want of common sewers alleged; for "there are plenty of them running underneath the street,"—but that "the inhabitants are not allowed to cut into them;" so that, in fact, they are like a colon without follicles,—a great gut without excretory ducts,—an organism much more characteristic, certainly, of the folly and absurdity of man himself, than of the wisdom and simplicity of nature in his own formation. —— It has been determined to advertise for contract tenders for either rebuilding or widening the West-bridge at Sherborne.—— Mr. Lewis, the sculptor, of Cheltenham, has just completed for Lord Ellenborough, a column of Caen stone, for erection at Southam, to commemorate the achievements of the British forces in India, during the period of his lordship's government there.——An infant school, with a dwelling-house attached at either end, has been erected at Ilford, by Messrs. Curtis, the builders, of Stratford, from a design, in the Elizabethan style, by Mr. Mason, the architect, of Lime-street, city, and at the expense of a lady, Miss Ellen Thompson, of Ilford. —— A separate note from Birmingham will be found in our present impression. ——It is said that a new railway station is to be erected close to the west bridge at Northampton, so as greatly to increase a traffic already so much beyond what it was of old intended for, that the trampling, kicking, and over-running of pedestrians by horses is a thing of every day occurrence. A reverend vicar of the vicinity recommends a boarded pathway swung on chains or fixed to the wall, as the most effectual and cheapest plan of remedying the evil. A like case occurred at Stratford-on-Avon, where the traffic along Sir Hugh Clopton's bridge was accommodated, a few years since, by a path of open iron-work. There could be no difficulty, therefore, in adding to the exterior of the walls a footpath more substantial than any wooden one: even a stone flooring indeed might be laid down.—— Old Weston Church, says the *Cambridge Chronicle*, has been undergoing considerable repair according to plans designed by, and executed under direction of, Mr. Allen, the architect of St. Ives.——Alterations in Springfield Jail, according to the *Chelmsford Journal*, have been made, for which the contractor was lately ordered to be paid 2,000*l.*——It is proposed to erect a new bridge, as a substitute for the present temporary one, between Yarmouth and Southtown.——A chapel has been built at Aycomb, near Hexham, for the alternate use of Independents, Wesleyans, and Primitive Methodists.——The Earl of Carlisle has directed plans to be prepared of his land in the vicinity of the railway station near Morpeth, to be laid out in streets or villas.—— The Commissioners of Woods and Forests, who are to be in Edinburgh on the 26th instant, are to have estimates and proposals for the new corn market there brought under their notice.——The *Cork Constitution*, speaking of certain abuses in the public work system says, that in some districts it is difficult to get even masons to do a day's work. In Mallow lately, when some small job was required at a public oven, which the relief committee had judiciously opened in order to provide the poor with bread, not a mason could be had. They were all employed as superintendents, &c., on the roads, and not one of them, though offered a day's wages for the work of a few minutes, would consent to go, and only that the committee succeeded in borrowing one (from a Government officer it is said) they would have suspended operations altogether, and have left the needy to "the regular course of trade." Complaints too still continue of the peasantry quitting their native employment on the land, for employment on the public works, so that the small farmers are abandoning cultivation altogether; and even, it is sherwdly suspected, following the example of their poorer neighbours, in many cases, applying for public work without much occasion.

DALSTON INSTITUTION COMPETITION.

Sir,—When the advertisement for designs for the Dalston Institution appeared (on the 10th of October last, although it is dated the 2nd), I had some leisure; I therefore wrote to the secretary, Mr. R. Simons, for the requisite information, complaining, at the same time, that the time given (from the 10th to the 28th of October) was extremely limited. After some days' delay, I received his instructions, which included the size of the required building, the sum to be expended (which was not to exceed 1,500*l.*), and a remark, that an elaborate design was not required, and that it must be in the Italian style. I prepared a design in the Italian style, and forwarded it to Mr. Simons. It was designed in as simple and chaste a manner as possible, having an eye to the 1,500*l.* It was a design that would admit of considerable enrichment if it was thought requisite. As soon as it was received, Mr. Simons wrote to me to inquire what sum it would take to execute my design. I told him 2,000*l.*, or it might be reduced to 1,800*l.*, executing it in a plainer style. I told him, however, that no building of such a size as the one required, could be executed for a less sum than 2,000*l.*, if it had any pretensions whatever. My design was returned. I should not have troubled you with this letter, only I see a letter in The Builder of last week, complaining of the manner in which the committee have acted. For my part, I have determined never again to compete unless I know something of the respectability of the advertising committees. As "Alpha" states, the prettiest picture has no doubt been chosen, and a design to cost, not 1,500*l.*, but 3,000*l.*—I am, Sir, &c.,

J. Blenkarn.

Pellow House, Ollerton, Notts, Jan. 10, 1847.

Another correspondent has forwarded the following list of the tenders delivered *for the carcass only*.

	Main building.	Theatre.
Brake.....	£1,765	£1,243
Dean.....	1,693	1,312
Plaskett and Shelton..	1,692	1,300
Wood.....	1,685	1,300
Knight and Son	1,677	1,247
Wm. Smith	1,660	1,333
Trego.....	1,660	1,273
Glenn.....	1,642	1,208
Kebbell.....	1,635	1,250
G. J. Carter.....	1,624	1,189
Edw. Carter	1,600	1,200
Rider and Son	1,584	1,170
Yeoman.....	1,579	1,183
Wm. Higgs	1,539	1,147
Burton	1,522	1,125
Cooper and Davies ...	1,600	1,000
Elston and Son.....	1,442	1,264
Pegrum	1,459	1,069

Quantities furnished by Charles Fowle.

The lowest amounts, in the whole, to 2,528*l.*, the highest to 3,008*l.* !

Brimington Church.—This church, which is now being rebuilt from designs and under the superintendence of Mr. Mitchell, architect, Sheffield, is in the decorated style which prevailed in the 14th century. The plan is a double rectangle, having a nave with clerestory 57 feet by 20 feet, side aisles 57 feet by 12 feet, and chancel 25 feet by 17 feet, with the old tower at the west end. From want of funds it was thought necessary to reduce the expenditure, by omitting the clerestory, thus materially injuring the effect of the design. It is now, however, hoped that a sufficient sum may be raised for retaining this part of the original plan.

THREATENED REMOVAL OF WESTMINSTER BRIDGE.

A public meeting, numerously attended, was held on Monday evening last at the Westminster Literary Institution, to consider the proposed bill for the removal of Westminster-bridge. All were unanimous in condemning the monstrous proposition, in favour of which, indeed, we have not yet heard one voice raised.

The chairman, Sir de Lacy Evans, said, in the course of his speech, that a committee of the House of Commons had recommended the erection of a new bridge on the same site as the present. It was stated that no less than 20,000,000 of people, and from 4,000,000 to 5,000,000 of horses, passed over this bridge in the course of a year, and the numbers had greatly increased of late years. There was greater traffic over Westminster-bridge than over any of the others except London-bridge. Mr. Barry, the architect of the new houses of Parliament, had prepared the plan of an iron bridge, to cost 260,000*l.*; but the committee had recommended a stone bridge, the expense of which was estimated at 360,000*l.* The bridge estates were expected to furnish more than 170,000*l.* of that sum, so that the expense to the public would be comparatively small. To the general astonishment, it appeared that some parties had now got the Commissioners of Metropolitan Improvements to sanction the introduction of a bill to abolish Westminster-bridge, to stop up this means of intercourse, to annihilate all the important interests connected therewith. He had now been nearly seventeen years in Parliament, and had never met with any thing so extraordinary. He thought Lord Morpeth had been grossly imposed on, or he would not have lent his name to such a proposal.

The Dean of Westminster said he attended to oppose it, as well on account of the interests of the public as of the chapter, of which he was the head. Property would be ruined, improvements stopped, and the labouring classes greatly injured.

Mr. B. Hawes, M.P., said he would oppose the bill in every stage. As to the Woods and Forests, he did not believe they were promoters of it. It was a private bill for private interests.

The following resolutions were passed:—

"That the proposed abolition of Westminster-bridge, and the application of funds appropriated by Parliament for its maintenance, to the erection of another bridge near Charing-cross, is unjust and injurious to the public, to the parishes of St. Margaret and St. John, and to individuals, for the following principal reasons:—Because it would abruptly close the long-established thoroughfare from Surrey to the city of Westminster, St. James's Park, and the daily-increasing neighbourhood of Pimlico and Chelsea; and leave no communication whatever across the river west of Charing-cross, free of toll; and also, because the cost of approaches to a bridge on another site alone would suffice for the erection of a new bridge on or close to the present site. Because it will entirely put a stop to the opening of new streets through the notoriously crowded, ill-drained, and dilapidated portions of these parishes (one of which streets has already received the sanction of Parliament), and prevent all improvements therein. Because the streets in connection with the present bridge were laid out by commissioners appointed by Parliament, and a very large amount of property has been therein created, under an implied agreement that a bridge should be maintained by Parliament on this spot for ever, and that the substitution of a bridge on a distant site (involving an enormous depreciation in the value of such property, and almost ruin to many individuals) would be a breach of faith which ought not to receive the sanction of the legislature.

"That independently of the most important considerations contained in the former resolution, and of the question, financial, local, and architectural, involved in the proposal for erecting the bridge near Charing-cross, and making the approaches thereto, this meeting is of opinion that its substitution for a bridge on the present site would be productive of manifest public inconvenience, because it would throw the enormous carriage traffic of Westminster-bridge, a portion of that now using Waterloo-bridge, and ultimately the traffic from all the south of England railways, on a spot which is now at times impassable by reason of the immense traffic from the city to the west end and western suburbs of the metropolis.

"That a copy of the foregoing resolutions be forwarded to the Commissioners of Westminster-

bridge, and that the members of the city of Westminster and the borough of Lambeth be requested, both as members of the commission, and as our representatives in Parliament, to oppose the appropriation of the property set apart for maintaining the present bridge, to the erection of a bridge on a distant site; that a committee be formed to consider the best means of opposing the threatened measure, and if expedient, in concert with other opposing parties, that a subscription be commenced to defray the necessary expenses, and that a committee be appointed, with power to add to their number."

NOTE IN BIRMINGHAM.

POLLUTION OF WELLS: PLANS FOR LUNATIC ASYLUM.

The sanatory condition of the town of Birmingham is at present engaging the serious attention of the authorities there. It has been found, that fæcal and putrid fluids are constantly sinking into the ground, from innumerable privies of an improper or imperfect order; and that these must have so poisoned the very sources of the town-supply of water, that "in all the wells in Birmingham more or less of ammonia is to be found in consequence." And it would be well if nothing worse than ammonia could so penetrate; but, even independently altogether of the intolerable idea of the thing, there cannot be a doubt that the wells must be impregnated with far more deletereous matter than mere ammonia. Be this as it may, however, the subject is not only at present engaging serious attention, as we have just observed; but, strange to say, "a French Count with his Engineers" have gone to Birmingham, for the purpose of offering their services towards the effectual removal of the causes of this serious evil. The fact is, this French count has taken out a patent, both in France and England, for the chemical reduction of manure into dry and scentless solids; so that Mr. Higgs has need to look to his laurels and his patents. This enterprising nobleman proposes, for a consideration of course, to divide every privy in Birmingham, at his own expense, into two distinct receptacles, one for ashes, &c., and the other for the more valuable chemical manure; which latter he will then be ready to convert, "by a chemical process, into a dry, portable manure," within the "very privies" themselves; thus fixing the deleterious gases and fluids at once into innoxious matter, removable forthwith, without the slightest injury to olfactory sensibility or to health; but, on the contrary, with the expeditious and effectual annihilation of a fertile source of serious injury to both; and that, too, without awaiting the formidable obstacles in the way of the construction and establishment of any general system of drains or sewers. The "covering, dividing, and puddling, of the privies," and the erection of the "chemical manure factory," will, of course, be very expensive; but the count, although he has not yet come to terms with the Birmingham commissioners, counts, of course, upon a remunerative profit to himself, as well as to the community at large. The city of Paris, he informs them, reaps an annual harvest, from such fertile sources, of no less than 500,000 francs, or 20,000*l.*, even without the operation of the save-all chemical scheme proposed. The annual expense of the working of this new scheme at Birmingham, exclusive of the heavy expense to be incurred by the count in the establishment of his "factory," and the improvements of his depôts or privies, he estimates at 20,000*l.*, and he expects to be sufficiently remunerated for the whole of this Herculean or Augean labour and expense, by a mere "premium for extraction, either by a fixed price per ton, or by a yearly sum, to be paid by the town to the company," under a "contract of considerable duration."——The erection of lunatic asylums,—a subject at present engaging much interest and discussion in various towns and counties throughout the empire,—is, at Birmingham too, dividing the attention of the municipal authorities with the other sanatory measures just alluded to;—the *other* sanatory measures we say, since the restoration of the insane to a sanatory state is, of course, a subject deeply and most intimately connected,—as indeed, is the occurrence of insanity itself,—with the general question of the sanatory state of towns. The architect's plans for the proposed asylum at Birmingham have been presented to the council. They were prepared, say the committee, without an existing asylum as a model; but there is good reason to think, they add, "that, if approved by the council, the asylum would be recommended as a model for the kingdom." They "forbear, however, to append the architect's estimate to their report, until the tenders for the execution of the work have been supplied." A member of council, in expressing his surprise that the probable cost of the building had not been stated, remarked that the towns of Liverpool, Manchester, Leeds, and Sheffield, had not decided upon erecting an asylum; and that the county of Hereford, and the city of Hereford, had agreed with three other counties to erect one jointly. The Birmingham plans have been approved by the Commissioners in Lunacy.

THE DECORATION OF RAILWAY STATIONS.

Felix Summerly has addressed a letter, through the columns of the *Athenæum*, with the purpose of shewing "how the patronage of art may come legitimately within the scope of railways." He says:—"Already, the great railway stations now in progress of building or in contemplation—at Euston-square, at Birmingham, at Liverpool, at Hungerford-bridge, at London-bridge, at Shoreditch, at Oxford, at Carlisle, and elsewhere—are destined to rank among the most marked architectural features of our times, provided the natural wants of the buildings are permitted to direct the expression and sentiment of their architecture. A railway station, it must be admitted, is as susceptible of architectural character as a church, a palace, a clubhouse, or any other building. The ability of the architect may make stations at once symmetrical and beautiful; and if he be a true inventive genius, he will not be discouraged by the seeming difficulties of dealing with the apparently awkward proportions of railway stations. But the architectural forms of stations are not my special theme. My purpose is to shew what a noble opportunity these great halls of meeting afford for promoting the decorative arts of painting and sculpture: an opportunity for reviving that natural union of decoration with architecture, which we find to have existed in the public buildings of all nations,—among the Egyptians, the Greeks, the Romans, and throughout the middle ages in our own country, until the advent of puritanism."

"Decorate the principal railway stations with paintings and statues,—coloured windows and mosaic pavements; and the multitudes awaiting the arrivals and departures of the trains, will thus be educated in art with the least possible parade of being so taught. An opportunity will be afforded to gratify and improve busy, hard-working thousands, especially of the manufacturing class, who have no means of access to private picture collections, and little leisure or opportunity to visit our one National Gallery."

"What a noble work it would be to have a series of frescoes, illustrative of communication and commerce, adorning the walls of the waiting rooms of Euston-square or Birmingham,—the windows resplendent with stained glass, and the floors decorated with mosaic pavements! But the cost?—some may ask, hesitatingly. At once let me say, that a railway should not be asked to decorate its stations with high art until it pays a dividend of 10 per cent.

The cost, in fact, would fall upon the public itself,—and be by them contributed welcomely for their own benefit; though the work would be instigated and promoted through the liberality of the shareholders, who would obtain all the credit justly due to the enterprise. Suppose 20,000*l.* were so applied,—spread over a period of three years, if necessary. This amount would be much less than 1d. in the pound on the gross receipts of the London and North-Western. It might, I think, be proved, if it were necessary to do so, that a station made highly attractive for its art would directly benefit the traffic. The passport to the picture hall would be the passenger's ticket. Railway shareholders are proverbially most liberal and generous, in spite of the idle imputations of Mr. Morrison or the taunts of "Cato;" and if Mr. Glyn thought it necessary to say to his brother shareholders at the next general meeting, "We propose to adorn our principal stations in the best manner of which British art and skill are capable—to give to our customers such architecture, paintings, sculpture, and decoration, as shall not be surpassed in England, and shall rival those of the stations in Germany"—I believe the meeting would welcome the proposal with cheers.

What corporation in the past history of the world can boast, like the London and North-Western, of an annual receipt of more than a million and a half of pounds sterling? Surely, the King of Bavaria, with his Glyptotheca—or Leo the Tenth, when he caused Raffaelle to decorate the Vatican—or the Doges of Venice—had no such resources at their command. And surely we have painters equal to the work—Mulready, Maclise, Eastlake, Edwin Landseer, besides Etty, Cope, Herbert, Dyce, and others. If railway companies would enter upon this noble course, we should soon have our public buildings rivalling those of modern Germany and ancient Italy. It would only be following the example of the church and of the ancient guilds."

ARCHÆOLOGICAL MEETINGS.

On Friday, the 8th inst., the *Archæological Institute* met at four o'clock in the afternoon, at their rooms in the Haymarket, and the *British Archæological Association* at half-past eight, in Sackville-street.

At the *Institute*, Mr. Stapleton was in the chair, and the subject fixed for discussion was "The works of the early goldsmiths." Mr. Hudson Turner, secretary, introduced it by some interesting remarks, shewing, among other points, the effect of the early goldsmithery on the artistical work of the period, on which a discussion followed. Mr. Newton read a description of some extensive Roman remains recently discovered at Gatterly Grange, near Catterick Bridge, Yorkshire.

At the *Association*, Mr. Pettigrew was in the chair, and the attendance numerous. Mr. Roach Smith read a communication from Matthew Bell, Esq., on the excavations recently made at Bourne Park, near Canterbury, where numerous discoveries, from time to time, have been made, of high interest, under the direction of the president of the association, Lord Albert Conyngham.

Mr. Wansey exhibited two querns, or hand-mill stones. They were found about twelve feet from the surface in excavating on one of the estates of the Fishmongers' Company in Ireland. An elaborate paper, by Mr. Jones, followed, on the Eumenides of Æschylus; a subject closely connected with the singular piece of sculpture discovered some months since in the City stone-yard, by Mr. Price, and which, notwithstanding the exertions of the association, is in danger of further mutilation or entire destruction. The fragment in question represents the three mythic personages often found represented on works of art of that period, particularly in Germany. The remainder of the evening was occupied with discussions relative to cromlechs, and other early sepulchral remains found in England; in which Messrs. White, Wright, Keete, Fairholt, and Godwin, joined.

A question of considerable importance was mooted, as to the asserted sale from the British Museum, of metal copies of medals and coins, so closely resembling the originals, as not to be discriminated by the best judges. This certainly ought not to be permitted.

The Dry Dock, Malta—commenced by driving the first pile May 10th, 1842, under the plans of Mr. Scamp, carried out by Mr. Walter Elliot, is fast approaching towards completion. The extreme length, from the gates to the centre of the bow, is 274 feet, and to the square 222 feet; the width 82 feet; and the depth from the level of the water 25 feet. It is constructed of limestone, principally from Gozo, being less porous than any other stone found in these islands. Until recently, there were about 2,000 persons at work in the quarries or elsewhere connected with the dock, having in their families about 5,000 souls. Now, however, there are only 300 employed. The first class masons receive 1s. 4d. a day; second class, 1s. 2d.; third class, 1s. 1d.; labourers, first class, 1s.; second class, 10d. The cost of the dock, it is estimated, will be about 90,000*l.*, independently of factories, &c., which are not yet estimated.

THE IMPERIAL ASSURANCE OFFICE COMPETITION.

We mentioned some time ago, that certain architects and *others*, had been invited to submit plans for a new building for the purposes of this company, on a site adjoining the Hall of Commerce in Threadneedle-street, City. Eight designs were, we believe, submitted; and Mr. John Shaw being called in to assist the directors in the selection, the first premium was awarded to Mr. Gibson, and the second to Mr. Christian.

PREMIUMS FOR INVENTIONS AND DESIGNS.

The council of the Society of Arts offer the following premiums, amongst many others: —

1. A prize of ten guineas, with the Society's medal, for the effective ventilation of private rooms or buildings designed for large assemblies.

2. *The same* — for an improved method of preventing the emission of noxious vapours from the gratings of sewers, which shall permit a free passage of the sewerage, and provide against bursting the drains.

3. *The same*—for a specimen of printing in distemper by blocks, so as to "keep register" more perfectly, and produce finer specimens of art in paper-hangings, than by the ordinary methods.

4. *The same* — for the best application of glass in the construction of roofs.

The same—for the invention and application of a cheaper kind of glass than any now in use.

5. A prize of five guineas, with the Society's medal, for the best original pattern of a paper-hanging for an ordinary sitting-room, to be printed with not exceeding four blocks. The design to be full size.

The same—for an ornamental design, of a geometrical character, suitable for a roller window blind.

6. The Society's gold medal—for the finest specimens of Irish marble suitable for decorative purposes.

They also offer their gold and silver medals for original designs in architecture, and of architectural ornaments or details, and drawings of existing buildings, including geometrical elevations.

New Book.

Old England's Worthies; a Gallery of Portraits from authentic sources. Cox, King-William-street, Strand.

The twelfth number of this very cheap book, published on the 1st of the present month, completes the work. It contains in the whole 72 portraits of eminent statesmen, lawyers, warriors, men of science, and artists; with twelve illustrative engravings in colour, and well-written biographies, with head-pieces. It makes a handsome as well as interesting volume, well deserving of a large circulation. It was originally published by Mr. Knight, but by a recent arrangement has passed into the hands of Mr. Cox.

Projected Works.—There are advertisements in the current newspapers, for contract-tenders for building an extensive carriage bazaar and coach manufactory at Southampton; razing and rebuilding a house at Gravesend; constructing two reservoirs, part of an aqueduct and branches, and other works of the Bristol Water Works; repairing roads in Staffordshire; and (175 miles) in Herefordshire; rebuilding and repairing 5 bridges in Haddingtonshire; also, for the whole railway works, in separate divisions, of 5 and 6 miles, of Bristol and South Wales Junction; 5 and 11 miles of Oxford, Worcester, &c.; 5, 6, and 13 miles of South Wales; 2, 7, 1, and 4 miles of Monmouth and Hereford; 20 miles of Newcastle and Berwick (Kelso), in two divisions; 6 miles of Edinburgh and Bathgate, in two divisions; 19 miles of South Eastern; 2nd and 3rd contract of Rugby and Stamford; portion of Fleetwood and Preston Junction, and widening Preston and Longridge at Fulwood; also, for widening 600 yards of Greenwich, and enlarging London Station; building and finishing stations at Monkwearmouth and Newcastle; 5,700 square yards platform, and 10,000 super. yards roofing, at Leeds Station; and for 2,000 coal waggons with wooden bodies, for Midland Railway, &c.

Correspondence.

THE BUILDINGS ACT "CONVENIENCES,"—THE DALSTON COMPETITION.

Sir,—"An Old Architect" complains, in his letter in your number for this week, of the want of urinals in our streets. I beg to say, that I think the Official Referees have endeavoured to remedy this evil: I mean by the interpretation they have lately put on the portion of the Act relating to projections from the fronts of houses, as it is quite clear that, if their decision on this point is to be abided by, whenever one person building wishes for cornices or other projections, and sets back his front from the general line of building to obtain them (which he will have to do, supposing his neighbours value the space more than appearance), a corner will be obtained, which will be extensively used for the purposes alluded to.

While addressing you, allow me to mention that, like your correspondent "Alpha," I applied for the particulars issued by the committee for the Dalston Literary Institution, but, unlike him, I did not send in, as I was quite convinced that what they were asking for could not possibly be done for the money proposed to be expended.—I am, Sir, &c.

Jan. 8, 1847. G. R. W.

ELECTRIC TELEGRAPH.

Sir,—Your correspondent, A. D., has directed your attention to an ambiguous sentence, which has accidentally crept into the account of the electric telegraph, given in the "Engineers and Contractors' Pocket Book." As it was the intention of the writer of that little article to convey correct ideas on the subject of electro-telegraphy, so it is now his wish to remove any misapprehension which may have been caused by an unguarded expression.

The passage in question would have been more correctly worded, had it stood thus:—"If he *move* half round *the needle*, so as to present his back to it," &c. In this case, no wrong conclusion could have been formed. All that was intended by the introduction of this passage was, the explanation of the fact, that the position of the wire, whether above or below the needle, and the reversal of the electric current, would have equal influence in determining the side to which the needle would be deflected.—I am, Sir, &c.

London, Jan. 12, 1847. E. C. P. B.

TO OPEN CARRIAGE GATES.

Sir,—I should be glad if some of your numerous correspondents will inform me, as to the best and cheapest method of opening a large carriage gate (made of wood) from a lodge, without coming out of it. I have thought of several methods, but none seem to be quite the thing I could wish.

I am, Sir, &c., Henricus.

The Wood Trade.— Churchill and Co., in their annual circular, just issued, say the trade in wood for 1846, after much vacillation during the spring and summer, has closed in an improved and healthy state, with ample evidence that the consumption of the United Kingdom continues on the high scale of 1846—which had far exceeded all previous years. They estimate the comparative annual importation and consumption as follows:—

Importation of wood to the United Kingdom For the years....	1843.	1844.	1845.	1846.
In loads.....	1,375,238	1,558,612	2,054,528	2,041,000
Entered for home consumption in the same years.	1,365,025	1,543,050	2,009,731	1,958,000

It appears that the colonial wood trade is not curtailed by the abatement of protective duty, but, on the contrary, is progressively increasing. The quantity of square timber of all kinds brought down to the port of Quebec during 1846, is found to exceed all former periods, amounting

In 1846 to 37,404,409 cubic feet
„ 1845 „ 27,749,094 „
„ 1844 „ 17,850,891 „

Monument to Sir Charles Morgan.—A considerable number of designs were submitted to the committee in competition; from these they selected a model by Mr. Evan Thomas, of London. It consists of a sitting figure of the baronet, on a tasteful pedestal, the sides of which are decorated with agricultural emblems in high relief.

Miscellanea.

Public Cooking Ovens for the Working Classes.—We derive the following description from a recent Austrian publication. "Public cooking ovens have been established amongst the Jewish community at Prague for years past: this sect of religionists deserve the credit of everywhere maintaining their own poor. The construction and working of these ovens is the following:—They are common baking ovens, of round or oblong form, as best suits the locality. Their external wall, however, is furnished with a number of mural shelves and niches, the use of which shall be presently explained. They are heated and open to the public at a very early hour, when (at Prague, at least) the working people go to their work. Hither, therefore, they bring their meals, either for breakfast, but most usually dinner or supper, after the work of day has been performed. The cook receives their dishes, and places on them a label, whose utility is particular, and must be briefly explained. The people bringing their meals for preparation, may have them returned at any reasonable hour; some even wait for them. But suppose a person brings a dish early in the morning, which he does not want but at night, then the cook places in it one of the many tin labels at hand, on which all hours of day and night (with their fourth divisions) are inscribed. Thus, a person wanting his meal at a quarter past nine P.M., a label to that effect is placed on the vessel. The charge is from one to four farthings per dish, according to size and trouble required. If the person does not call at the appointed hour, the meals are kept warm in the above shelves."

Norfolk and Norwich Archæological Society.—The annual general meeting of this society was held at the Museum, Norwich, on Thursday last. The Venerable Archdeacon Collyer was unanimously called to the chair. —The Reverend R. Hart read a paper descriptive of the wood carvings exhibited by Mr. Back. They had been brought from Belgium some time ago, and Mr. Hart read several descriptions of similar carvings in some of the continental churches, in order to identify the position they had occupied, and the purposes for which they had been intended. He was of opinion that they had been used as ornaments to the pulpits. He could not assign a later date to them than the end of the 17th century. Four of the carvings represented an angel, lion, lamb, and eagle, typical of the four Evangelists. Others represented St. Ambrose, with his symbol, a bee; St. Jerome, with a lion; St. Augustine, with a burning heart, and St. Gregory the Great with a triple crown and a dove; St. Dorothy, bearing the flowers of Paradise; the Empress Helena, with the true cross; St. Dominic the founder of the order of preaching friars; and a monk, bearing the sacred monogram, supposed to be Ignatius Loyola, the founder of the order of Jesuits. In conclusion, the rev. gentleman pointed out the value of a knowledge of symbols, by the aid of which antiquaries were enabled to ascertain the subjects of these ancient carvings. Various other communications were read.

Railway Works.—The Eastern Counties Railway Company are about very large works at Stratford, comprising almost a new town. We learn that no fewer than 300 houses are to be at once erected, at a cost of 200,000*l.*, the contract having been taken by Messrs. Curtis, of Stratford. It is also contemplated to erect a church at the same spot, and provide other institutions for the moral welfare of the inhabitants.

Defective Works: Fall of a Bridge.—On Friday week, a bridge over the Bishopstoke and Salisbury branch of the South Western Railway, at Timsbury, Wilts, fell in with a general crash, obstructing the way for a considerable space, and again delaying the frequently announced opening. By chance, the workmen were found, on calling over the roll, to have all escaped.

Our Obelisk.—We learn that in the course of the alterations now making in Alexandria, under a French engineer, the prostrate obelisk, known as Cleopatra's needle, which was presented to the English Government some time ago, has been buried in the sand, so that no trace of it remains.

To Prevent Iron from Rusting.—Zeni recommends, for this purpose, eighty parts of pounded and very finely sifted brick-dust, which is to be mixed with eighty parts of litharge. The mixture is ground upon a slab with linseed oil to a thick paste, and diluted with oil of turpentine. Before use, the iron, even when it is new, should be rubbed quite clean. M. Zeni asserts that iron, which had been twice painted with this and exposed for some time daily to the action of the sea, had remained entirely free from rust.—*Chemical Gaz.*

Improvement of the River.—On Saturday, a notice was posted at Guildhall announcing the intention of the Corporation of the City to apply to Parliament for leave to bring in a bill to extend the powers of the Court of Conservancy of the river, over the River Thames and Medway from Stsines to Yantlett Creek. The powers sought for are to pull down and rebuild bridges, erect steam-boat and other piers, to cut canals, to deepen the rivers, and to erect or form embankments, docks, harbours, jetties, and quays.

Terminus in Paris.—The Council-General of the Roads and Bridges have submitted to the Minister of Public Works, its decision respecting the site of the grand terminus of the Paris and Lyons railroad. It is to be established on the Boulevard Contrescarpe, near the Place de la Bastille, and will require the construction of a costly viaduct over the streets Moreau and Traversière and the grounds of the new prison of La Force.

Baptistery.—A novel feature has been lately introduced into Trevethin Church, under the sanction of the bishop of the diocese. A baptistery, measuring 8 feet by 3 feet 6 in., and 4 feet deep, has been placed near the south door, wherein it is intended, should any person have conscientious objection to the sacrament of baptism by sprinkling, to perform the ceremony by immersion.

Cast Marble.—A discovery is stated to have been made at Charlottenburg, by which marble may be cast in moulds of any size, the marble being equal in quality to the purest Carrara marble. Several figures have already been cast of the size of life. The cast is stated to be one dollar a foot.

TENDERS

For additional Wing to the Surrey Lunatic Asylum.

Grissell	£41,472
Lee	37,700
Little	37,600
Hicks	37,400
Bird	37,375
Baker	36,400
Kelk	35,500

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

Monday, Jan. 18.—Statistical Society, 12, St. James's-square, 8 P.M.

Tuesday, 19th.—Institution of Civil Engineers, 25, Great George-street, 8 P.M. (anniversary).

Wednesday, 20th.—Society of Arts, Adelphi, 8 P.M.; Association of Architectural Draughtsmen, 33, Southampton-street.

Thursday, 21st.—Royal Society, Somerset House, 8½ P.M.; Society of Antiquaries, Somerset House, 8 P.M.

TO CORRESPONDENTS.

"*M. J.*" (Brixton).—We are unable to give any account of Langham Hall. A memorandum of the descent of the lands will be found in Hutchin's Dorset, second edition.

"*W. C.*"—The subjects named are not quite what we want.

"*J. B.*"—Could not recover from the Insurance Company.

"*J. M.*"—We are not aware that any drawback is allowed "on materials used in the building of schools connected with the Established Church."

"*Stations on Leeds and Bradford Line.*"—A correspondent asks for a list of the tenders delivered last month, for building there.

"*G. R.*" (Wolverhampton).—Shall be engraved. We wish the exact form of the upper (oval?) panels was clearer.

"*A Subscriber.*"—It is not within our plan to furnish prices.

"*G. H.*"—The communication shall be forwarded to Mr. Higgs when we obtain his address.

"*J. C.*"—Tupper Carey, Esq., Secretary to the Committee, Guernsey. Designs to be sent in on or before Feb. 15.

"*J. J.*"—We fully admit "the importance of having the eye instructed by correct examples of mathematical lines." So many matters, however, press upon us, that we are quite unable to attend to all.

"*G. R.*" (Hampstead).—We will inquire.

Received.—"A Subscriber" (Dalston), "G. R. F." "A. G." (Soho-square), "Rev. E. C.," "J. J.," "W. D. L.," "G. W.," "Observations on Steam Ships and the use of Iron in their construction. By Christopher N. Nixon (Effingham Wilson).

NOTICE.—Covers for Volume IV. of The Builder, may be obtained at the Office, 2, York-street, price 2s.; or the publisher will bind sets at 3s. each.

ADVERTISEMENTS.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	8d.	1s.	1s. 6d.	2s. per 1,000.

Best Sheet Floor Brads 12s. 6d. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6d., 7d., 8d., per inch.
Self-acting Kitchen Ranges, with Oven and Back Boiler.
Wrought Bars and Bright Fittings.
2 ft., £3 3s. 2 ft. 6 in., £3. 12s. 6d. 4 ft., £4.
Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 12s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 feet 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 5½d., and 6d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit, Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices.—CAST-IRON UPSETS.

ORNAMENTAL STOVES.

JEREMIAH EVANS and Company respectfully invite the attention of Noblemen and Gentlemen furnishing, or refitting their mansions, to the most extensive and varied Stock of DRAWING-ROOM and other STOVES in the kingdom, which combine many recent improvements, producing great heat with small consumption of fuel, and are manufactured of every description of pattern, including the Gothic, Grecian, French, and Elizabethan; also fenders and fire-irons en suite. Improved Kitchen Ranges, with or without steam apparatus. Hot and Cold Baths of all descriptions, and every requisite in furnishing ironmongery at wholesale prices. Improved Hot-water Apparatus for warming buildings, conservatories, &c.—Manufactory and Show-rooms, 33, King William-street, London-bridge. Established in 1815.

HOT WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the Continent, are stronger, lighter, cheaper, and more durable than Brass or Copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

SMOKY CHIMNEYS EFFECTUALLY CURED.

WILSON AND CO.'S

PATENT

VENTILATING CHIMNEY POT,

For the cure of smoky chimneys, has been tested extensively throughout the Kingdom for the last two years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

They are now manufactured of artificial Stone Cement.

The trade supplied with them at the Manufactory,
VALE PLACE, HAMMERSMITH GATE, MIDDLESEX.

N.B. Licenses granted to Manufacturers.

PAVING, 2s. 9d. PER SQUARE YARD. Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

FILTERED WATER.—As the rainy season produces its dirty water, JOHN DAY, proprietor of Defouville's system of filtration, the only one known by which large quantities of liquids are easily filtered, begs to announce that he continues to supply these apparatus, which are easily applied to cisterns and water-butts, and when fixed require no care or attention from servants, and never get out of order. The prices are from Two to Four Guineas, producing from 100 to 300 gallons daily; for brewers, distillers, paper makers, hospitals, and large establishments, to an unlimited quantity, the prices varying accordingly.

40, Love-lane Platform, Rotherhithe; Office, 33, Conduit-street, Bond-street.

TO ARCHITECTS AND BUILDERS.

THE attention of Architects and Builders is directed to the Patent Architectural Works for CARVING IN WOOD (of any kind), STONE, and MARBLE. The advantages over every other description of carving are very obvious on comparison, whether in the execution of the work, or saving in price. A Show-room is fitted up on the premises, containing a variety of specimens, and the public are invited to inspect their merits. Communications should be addressed, "Architectural Carving Works, Eccleston-place, Pimlico," having no connection with any other establishment.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS on SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

TO BUILDERS, &c.

JOHN NEWSON having now completed his machinery for preparing floor-boards with the smallest possible waste, and as cheap as heretofore, is enabled also now to complete every kind of sawing and grooving at the same mills. A good assortment of planks, deals, battens, cut boards, match boarding and mouldings; oak and deal sash sills, mahogany, oak, birch, and beech, in planks and boards, veneers, &c., all dry and fit for immediate use, being well covered by extensive drying sheds.—Also single double wine and pantile laths for sale at his Timber Yard, Grosvenor-row, Pimlico.

DRUCE'S, No. 2 WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pantiles.

SILCOCK and Co.'s PATENT PLANES may be had at the following places:—
Archer, 45, Goodge-street, Tottenham-court-road; Blyth, White chapel; Cock, 424, Oxford-street; Dean, 46, King William-street; Fenn, 105, Newgate-street; Holtzapffel and Co., 64, Charing-cross; and of all ironmongers and tool dealers in the United Kingdom.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton-garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above office.
By the Court,
STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by water-courses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 4th Geo. 3 (chap. 7, local), it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of the Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.
By order of the Court,
LEWIS C. HERTSLET, Clerk.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain, is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road; sold also at the office of "The Builder," 2, York-street, Covent Garden, London; Hodgkinson, Widemarsh-street, Hereford; R. Sutton, "Review office," Nottingham; H. Wills, 39, High-street, Lynn; and in Manchester at Crake's Marble Works, Garratt-bridge. In bottles of 9d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N. B. The Trade supplied.